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The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

March 15, 1929 **Volume 52. No. 13**

STAMINA

THE Moore Champion DERRICK

CHAMPION OF THE OIL COUNTRY

Here is all it Now costs to Telephone

60¢ New York-Philadelphia Hartford-White Plains Chicago-South Bend Cincinnati-Lexington Milwaukee-Chicago	**75¢** Scranton-New York Indianapolis-Dayton Decatur-St. Louis Philadelphia-White Plains Ashland-Cincinnati	**$1.15** Houston-Shreveport Pittsburgh-Detroit Montreal-Albany New York-Washington Waterloo-Omaha
$1.35 Boston-Philadelphia St. Louis-Chicago Indianapolis-Cleveland Milwaukee-Detroit Montgomery-Nashville	**$1.65** Atlanta-Memphis Cleveland-Milwaukee St. Louis-Omaha Baltimore-Boston Phoenix-Los Angeles.	**$1.95** Chicago-Toronto Denver-Wichita Dallas-Kansas City Atlanta-New Orleans Pittsburgh-Boston
$2.35 New York-Dayton Dallas-St. Louis St. Paul-Detroit Boston-Cleveland Denver-Kansas City	**$3.00** Chicago-New York New York-Atlanta Chicago-Dallas St. Louis-Philadelphia Montreal-Chicago	**$8.75** Coast to Coast (New York-Los Angeles)

This assortment of "samples"—basic day rates—shows how little it costs to talk and get your answer

ONE very essential thing about calls to distant points is the new low rates, but more important is what they will accomplish.

For example, one call from Ohio to Virginia, costing $2.10, sold 10 carloads of flour.

A call from Mississippi to New York closed a $150,000 wholesale dry goods order.

A call from New York to South Carolina costing $3.65 completed a real estate transaction of $160,000. A telephone conversation from New York to Toledo purchased a million dollar flour mill.

Not that one call always closes the deal. As a matter of fact by far the greatest value of telephone calls to any company is their regular daily use in developing business.

What out of town people should you call now?

Service to points near and far is so speedy that the operator will probably ask you to hold the line.

Calling by number takes less time.

Bell Telephone Service . . . *Quick* . . . . . *Inexpensive* . . . . *Universal*.

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1897.

. . . . . *all combined in a pump you really should investigate!*

Here, men, is a pump built after your own hearts.

Designed to take punishment and ask for more. As husky a "baby" as has ever been made for this class of service and yet the smoothest, slickest in point of operation, you've ever seen or heard!

TIMKEN roller-bearings in drive and crank shaft. Positive, *automatic* lubrication. Center drive with herring-bone gears. Dust-proof crank case. Gas engine or electric motor operation. Ideal for any service within its limitation!

Every man who has to do with pump purchase, service or operation wants to keep abreast of pump developments. Here is a model that merits investigation. Ask us to give you full details.

GASO PUMP & BURNER MFG. COMPANY
Tulsa, Oklahoma
Texas Office—
210 Petroleum Bldg., Fort Worth, Texas

Illustration shows cover removed.

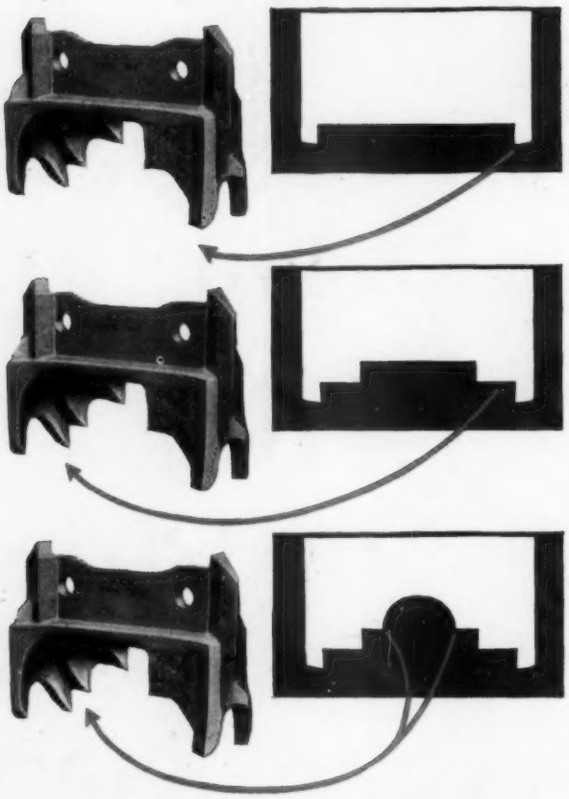
Gaso Enclosed Type All Timken Bearing Power Pump. Available in three types of fluid end—[1] Valve Pot Type, [2] 7-inch Suction Type, and [3] Interchangeable Liner Type (as shown in the illustration). Capacity of the Interchangeable Liner fluid end varies from 63 barrels per hour at 800 pounds pressure, with 2½-inch liner, to 250 barrels per hour at 250 pounds pressure, with 5-inch liner.

GASO PUMPS
for every oil industry need

Say you saw it in The OIL WEEKLY

the W. K. W. *BIT
DIGS PROGRESSIVELY

TYPE "B-2"
Patents Pending



The outer tooth digs at the corner of the hole, cutting a pilot groove. It digs right in.

Progressing toward the center, each tooth is set at a higher elevation, so that the hole is progressively cut.

The teeth at the center chop the crown of the hole and destroy the small core.

The W. K. W. bit eliminates the necessity of frequent changes from one type of bit to another when drilling through alternating layers of hard and soft digging. It rips and tears its way downward through all types of formation. The teeth are progressively arranged so that the cuttings are chopped into fine particles. Extra long reaming blades assure a full-sized hole. All of the cutting surfaces are faced with hard facing and inserts. The cutters are replaceable and the same shank can be used for many times the life of the cutters.

The W. K. W. bit guarantees more hole, less vibration, straighter hole, and fastest drilling.

PIN TYPE
Patents Pending

WIEMAN-KAMMERER-WRIGHT CO., INC. HOLLYDALE (LOS ANGELES COUNTY) CALIF. U.S.A.
W K W BIT
RIPS THRU THE EARTH
TRADE MARK REG. U.S. PAT. OFFICE

Catalogue Upon Request

Wieman-Kammerer-Wright Co., Inc.

Hollydale (Los Angeles County) California

Mid-Continent Distributors:
Continental Supply Co.

Export Office:
150 Broadway, New York

*WAY AHEAD

. . . . Drilling is too serious a business and involves far too much capital, to permit *any* factor of safety to be overlooked . . . The

HALLIBURTON
SAND TESTER

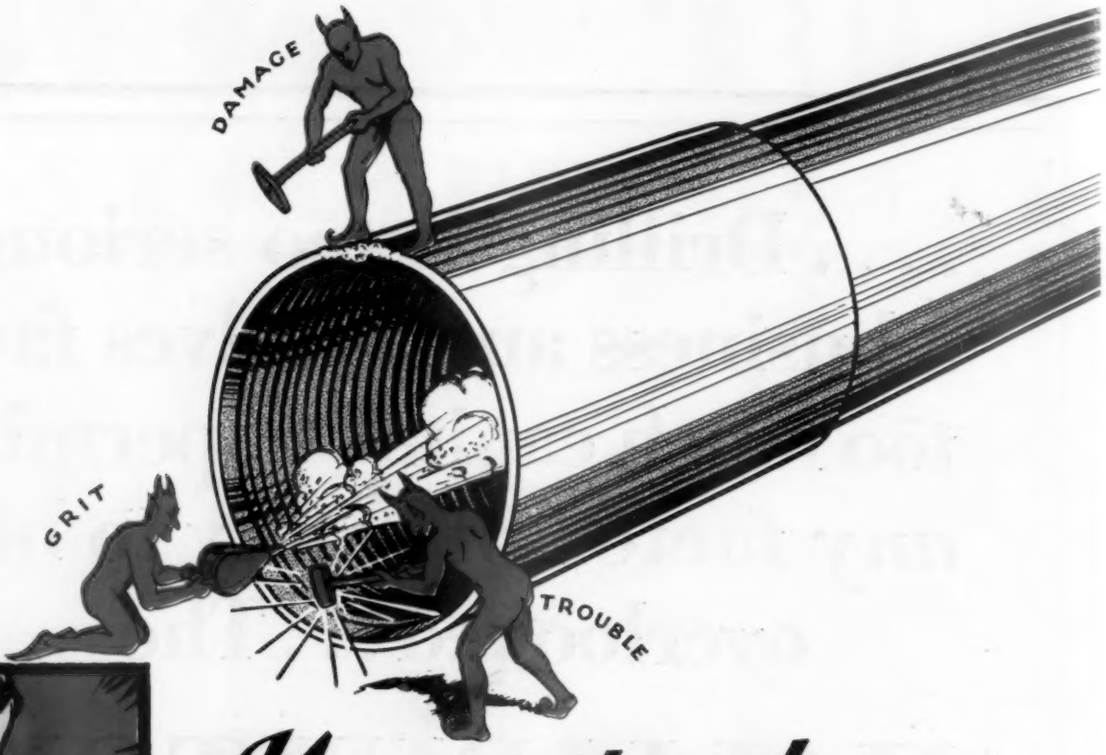
is an important and fully demonstrated factor of safety in rotary drilling.

The coupon will bring full information . . . . send it in today.

ERLE P. HALLIBURTON CO.
Duncan, Okla.

ERLE P. HALLIBURTON CO., Duncan, Oklahoma
Without obligation, please send me full details of the Halliburton Sand Tester, together with prices.

Name_____
Street_____
City_____
State_____



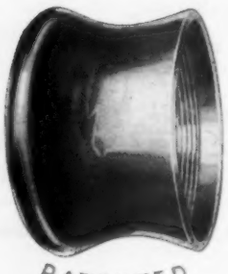
No wonder they can't be used!

Pulled through dirt and sand— clogged with grease —dropped on concrete sidings— and the user must pay for rethreading, for cleaning—for delays.

There is no excuse today for damaged threads in pipe or coupling —Colona Thread Protectors securely protect the threads and keep out all grit and dirt—the pipe comes to you just as it left the mill—ready to put down.

Insist on Colona Protection—it is insurance against trouble and costly delays.

Colona Manufacturing Co.
PITTSBURGH, PA.

COLONA  PIPE THREAD PROTECTORS

PATENTED

Say you saw it in The OIL WEEKLY

Bigger Power Plants—Higher Efficiencies

FABRICATION of modern power plant piping requires oxwelded joints that are not only as strong as the pipe—100% efficient—but also tough and ductile. Where efficiency, reliability and permanent tightness count most, power plant piping is fabricated under Linde procedure control.

Units of

UNION CARBIDE AND CARBON CORPORATION

General Offices UCC *Sales Offices*

30 East 42nd Street, New York, N.Y. In principal cities of the country

55 Oxygen Plants–36 Acetylene Plants–99 Oxygen Warehouses–100 Acetylene Warehouses–38 Apparatus Warehouses–235 Carbide Warehouses

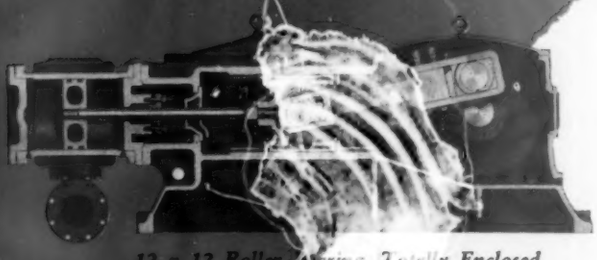
TITUSVILLE STEAM ENGINES

10½ x 10 Semi-Enclosed

Always a steady flow of power for *quick* starting stopping or reversing

You know and we know how modern rotary drilling demands an engine that is super powerful at all speeds as the loads fluctuate from no load to full load instantly. The Titusville 12 x 12 Twin Cylinder Steam Engine will meet these demands in flexibility and load, as it will develop 300 H.P. at 200 R.P.M. with 150 pounds Steam Pressure.

This is ample power to meet the MOST SEVERE conditions encountered in rotary drilling.



12 x 12 Roller Bearing, Totally Enclosed

Powerful · Flexible · Economical · *Always reliable*

Just a few of the many features of the new Acme Twin Engine. Well balanced moving parts, accurate machine work, absence of vibration and reduced starting torque due to the application of roller bearings to the crank shaft at the main bearings,—are all details of construction that make for greater power, flexibility, economy and reliability of operation.

The TITUSVILLE IRON WORKS Co.
TITUSVILLE · PENNA.

Titusville Acme Boilers Single and Twin Steam Drilling Engines Tico Gas Engines Band Wheel and Geared Powers

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Titusville Acme Rotaries Acme Swivels and Speed Draw Works High Pressure Boilers Crown Blocks Slush Pumps

RUGGED - ENDURING

SPANG

HIGHER STANDARD

WELDLESS JARS

LARGE operating companies and successful contractors the world over have demonstrated beyond question that Spang (Patented) Weldless Jars cost less per foot drilled.

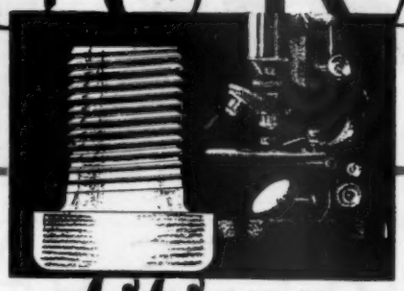
Exhaustive tests and comparisons over a period of years have caused the adoption of Spang Weldless Jars as standard equipment for all tools.

Individually *drop forged* from a single billet of highest grade alloy steel . . . then scientifically heat treated and finished to accurate specifications by master workmen—no wonder Spang Weldless Jars are outstandingly the most economical jars you can buy.

Over 300 leading Supply Stores carry Spang Weldless Jars in stock.

SPANG & COMPANY
BUTLER, PA.

ACCURACY



offers

no

apology

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

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A

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Mid-Continent and Eastern Distributors:

Frick-Reid Supply Corporation

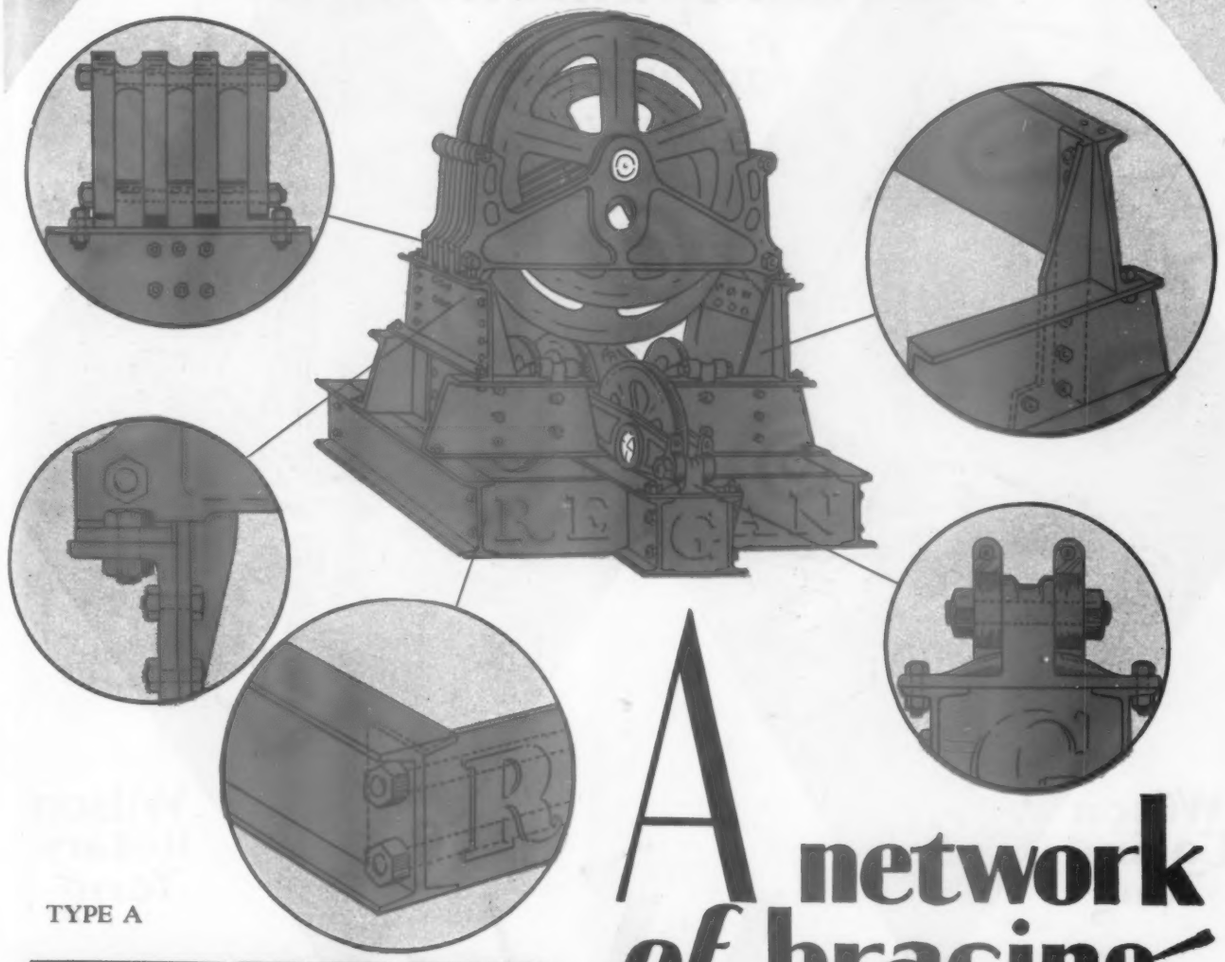
AXELSON

Sucker Rod

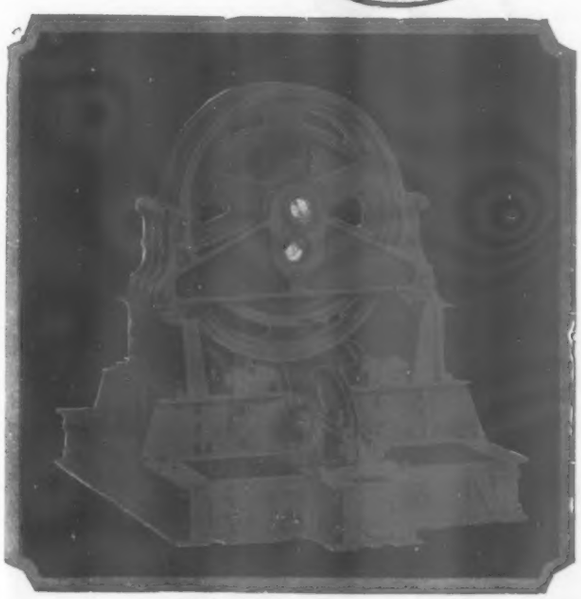
BUILT UPON ACCURACY

Say you saw it in The OIL WEEKLY

RIGIDITY



TYPE A



A network of bracing

The lower, intermediate and top beams are rigidly braced, preventing the slightest distortion of any part of the assembly regardless of load applied. The large sheave separators are mounted on 2-inch pins instead of directly upon the top beams, permitting exact alignment. Extra cross bracing of beams adds to the rigidity. The completed assembly offers the most unwielding construction, unsurpassed in heft and ruggedness, and excelling in bridge-like solidity.

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Forge & Engineering Co.
San Pedro California

Mid-Continent Division
Main office
1504 Magnolia Bldg., Dallas.
Pecos, Texas, P. O. Box 444
Pampa, Texas

Oklahoma City
2420 W. 21st Street
New York City, 75 West St.
Wm. Braat, Manager

Maracaibo, Venezuela; Wm. Adams, Care Amer. Consul.

REGAN CROWN BLOCK

Say you saw it in The OIL WEEKLY

The 2 companions OF fast-working crews

CASING

ROTARY

Wilson Casing Tong

Wilson Rotary Tong

It's a Wilson

FIRST IN

Safety
Strength
Speed
Convenience

Succeeding WILSON & WILLARD MFG. CO.

WILSON OIL TOOLS CORP.

OIL TOOLS DIVISION

of

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Say you saw it in The OIL WEEKLY

SECO VALVES

- - - - - - - - - *ARE THE MOST ECONOMICAL* - - - - - - - - -

---STRAIGHT SHOT

"SAVE WITH SECO"

The Seco Valve is by far the most economical valve on the market according to all tests. It will outlast the average valve four or five times.

Parts are made of high carbon, forged steel to prevent gritty fluids from eating into metal as it does with cast parts. Inserts are of Dick Balata or other proven makes.

The Seco Valve is manufactured for all makes and sizes of pumps.
Call at your supply store or write us for detailed information.

MISSION

Sales Company, Inc.,

Esperson Bldg.

HOUSTON

Elliott No. 1—H.C. Smith Core Bits on Christmas Tree. Left: Mr. Peterson, Milham Exploration Co. Right: Mr. Pingree, Bakersfield, Manager for H. C. Smith Mfg. Co.

H. C. Smith Type "C" Core Bit, showing renewable head.

H. C. Smith Coring Outfit

was used on the Milham Exploration Co.'s Elliott No. 1—the 4,000 barrel wonder well at Kettleman Hills, California.

Operators using the H. C. Smith Type "C" Coring Outfit are convinced of its superiority. Although the bit head can be rebuilt, it was designed to permit more economical renewal, thereby eliminating the expense and troubles incident to rebuilding. The drop forged heads have absolute uniformity of dimensions, including perfect centering of core cutter. The Type "C" Outfit will take cores in formations varying from the stickiest gumbo to the hardest formations penetrated by a fish tail, disc or 4-way drilling bit. In extremely hard formations, the Type "C" Bit Heads, set with diamond substitute metal, are recommended. Write for Catalog No. 20 giving complete data and specifications.

H. C. SMITH MANUFACTURING CO., Inc.
Los Nietos, California

Branch Offices and Warehouses:
Bakersfield, Calif. Ventura, California

Oil Well Supply Co., *Exclusive Sales Distributors,* Outside of California, for H. C. Smith Coring Equipment and Demountable Drilling Bits.

Cable Address: "Smithco, Whittier"

H.C.SMITH
Type "C"
CORING OUTFIT

.....These Drillers Know their stuff! Ask 'em!

The following actual reports were received direct from drillers of various fields indicating the trend of opinion regarding Bettis Protectors:

JIM POLLARD, THE DRILLING CONTRACTOR, SAYS:

"On January 19, 1928, we installed 76 Bettis Protectors, 4" size. They are still running and in pretty good shape. Now on their sixth hole. They have now been in use more than a year and are the best protectors I have ever seen.

Crew of Mills No. 1, reading from left to right—L. V. Arnold, driller; T. F. Cuff, P. Foust and N. M. Neil. They drilled with Bettis Protectors using hot oil for circulation for many hours and the rubbers were not harmed in the least.

On Maire No. 2.

Bettis Protectors have been on this pipe close to one cntire year and the driller says they have never had a change of collar and this particular string has been in three different wells and 90% of the Protectors still look good.

The Same String for Six Wells

Wells Nos. 12, 13, 18, 19, 20 and 16 being drilled by the D——— J.——— Company are all equipped with Bettis rubbers which have been in service for 6 continuous months. One of the drillers says he wouldn't know how to drill any more without Bettis rubbers.

Deepest Signal Hill Well

The driller who was in charge of the deepest producing well drilled to 8100 feet at Signal Hill reports that it is his opinion this well would never have been finished were it not for Bettis Protectors; says the drill pipe would never have held together had it not been for the Protectors.

The crew of Travis No. 1 at Long Beach, showing Bettis Protected pipe at collar.

Travis No. 1 at Long Beach was drilled to approximately 7100 feet with a string of Bettis protected pipe that had previously seen more than 6000 hours of service. Crew, reading from left to right: J. E. White, driller; J. G. Benton, John Murphy and L. L. Whitaker.

A World's Record

The longest string of 6" drill pipe ever used in a well (at Lawndale, Calif.), is Bettis-equipped. It is 5200 feet in length.

Could Not Drill Without Them

Bill Frazier was setting pipe at 3750 feet when our field man asked him his opinion about Bettis Protectors. He said: "Boy, I don't think I could make a foot of hole if I had to drill now without the Protectors since I have become so accustomed to the pipe rotating so easily. I hope I never have to drill a well that is not Bettis-equipped."

Elliott No. 2 at Santa Fe Springs is the deepest 10⅜" well in the world. It was run to 7110 feet with 7⅝" casing. The pipe was of course Bettis-equipped. Crew reading from left to right: W. G. Pruitt, driller; G. D. Bennett, F. Bakken, H. E. Moon and Nace Winters.

Saving Many Days Per Well

A well-known driller for one of the largest California Companies, says that he thinks Bettis Protectors have reduced their drilling time about 10 to 15 days on each well, because the pipe rotates much easier and can be pulled easier and floats when running into a hole, therefore saving the brake-bands and drilling equipment.

"Best bet yet"

HOPKINS ANTI-FRICTION TOOL JOINTS

Now available—Hopkins anti-friction Tool Joints and Collars equipped with genuine Bettis rubbers. Certain manufacturers have been licensed by us to manufacture them. Ask for special literature.

More than 110,000 Bettis Protectors in service.

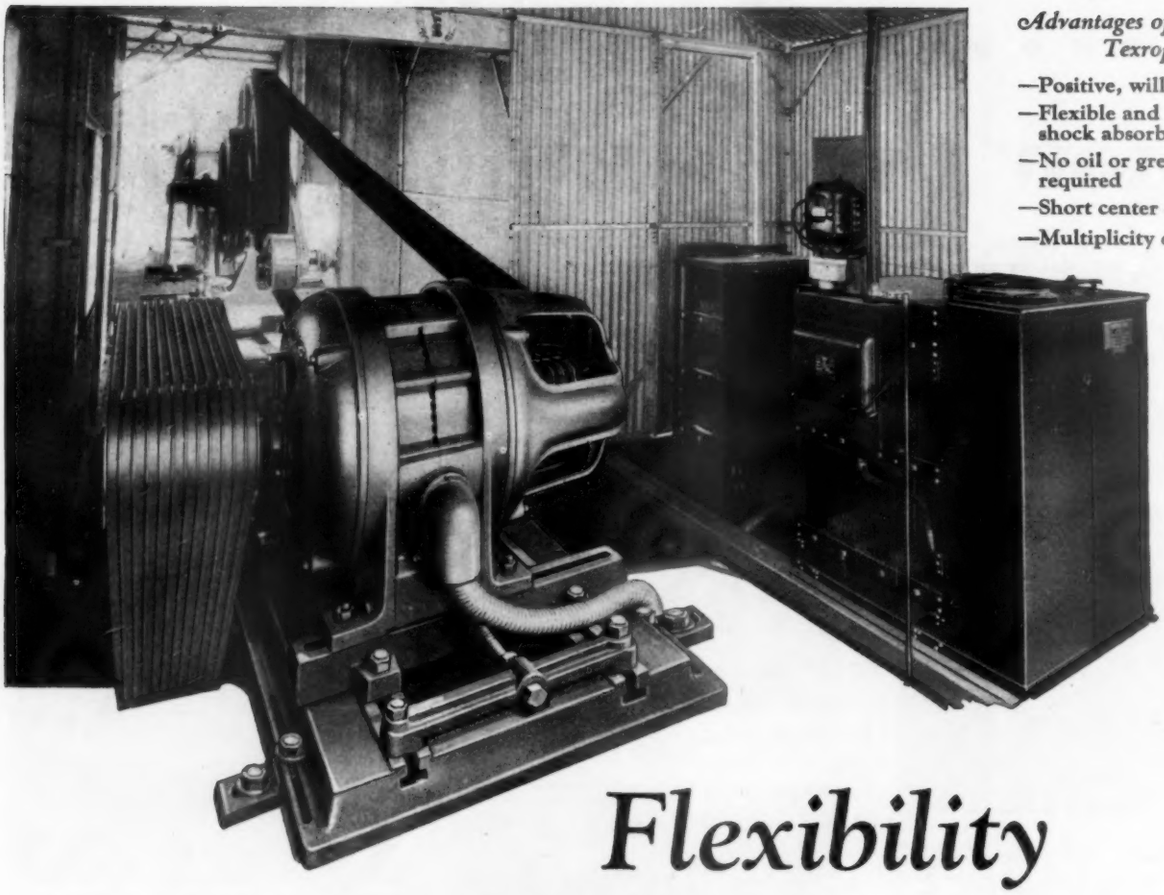
Ask for Catalog.

Patterson-Ballagh Corp.

Insurance Exchange Bldg., Los Angeles, Calif.
New York Office—39 Cortlandt St.
Mid-Continent Distributors:
Bettis Sales Co., 618 Public National Bank Bldg., Houston, Texas
Stocks carried at Los Angeles, Santa Fe Springs, Ventura, Bakersfield, Coalinga, Long Beach, Tulsa, Houston, Wink, and New York City

FULLY PATENTED

Bettis Protectors - The genuine anti-friction Rubbers



Advantages of Texrope Drives

—Positive, will not slip
—Flexible and shock absorbing
—No oil or grease required
—Short center operation
—Multiplicity of belts

Flexibility

for Cable Tool Drilling

—easily changed for producing

THIS Texrope driven single reduction unit is arranged for cable tool drilling. It is driven by a 25-65 h.p. Allis-Chalmers steel frame oil well motor regulated through control furnished by Allis-Chalmers. The control has 182 speed steps which gives very close speed adjustment. When this job is finished the drilling section of the control may be moved on to the next job and the motor and the reduction unit can be kept on the well for production.

Texropes provide a positive and flexible short center speed reducing drive requiring little care or adjustment. The countershaft is Timken equipped. Universal slide rails permit the use of any size or type of motor.

Allis-Chalmers motors are built with steel frames to give extra strength. The windings are dipped in insulating varnish and then baked three successive times to make them acid and moisture resisting. The combination Allis-Chalmers Motors and Texrope Drives provide dependable power that will stand up under your most severe conditions.

Stock at TULSA - HOUSTON - SWEETWATER - LOS ANGELES

ALLIS-CHALMERS MANUFACTURING CO., MILWAUKEE, WIS.

ALLIS-CHALMERS MOTORS and TEXROPE DRIVES

Products for the Oil Industry

Single and Double Reduction Units
Texrope Drives
Motors and Control
Transformers
Centrifugal Pumps
Pipe Line Pumps

Oil Field Offices

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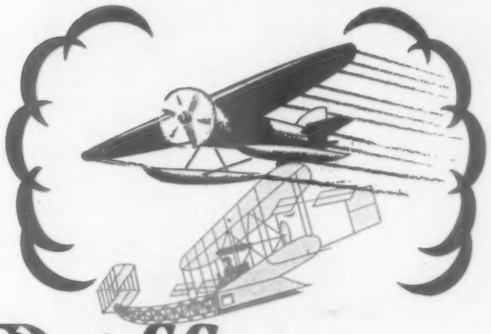
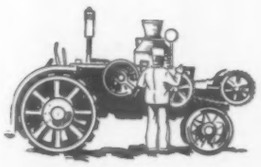


Different as New from Old

* * * THE SIMPLIFIED WINCH DRIVE ON THE RUMELY OILPULL WINCH TRACTOR COMPARED WITH THE WINCH DRIVES FOUND ON OTHER OIL FIELD TRACTORS.

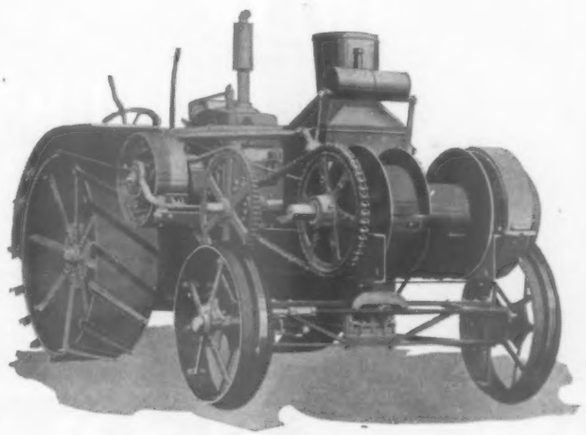


One Link and Five Minutes Time

place the drive chain back in order and the OilPull is ready to go again.

The winch on the Rumely OilPull Winch Tractor is driven directly off the crankshaft with a sprocket and chain. These are the only parts and every one is accessible so that in repairing the winch drive, it is not necessary to dismantle the tractor.

RUMELY OILPULL TRACTOR



The First Rumely OilPull Winch Tractors Ever Sold Are Still Running

Three Men ...and a... Basket of Gears

Some tractors have enough parts on the winch drive to fill a wash basket. When a repair is necessary, the tractor must be almost entirely dismantled—a job calling for two or three men and often times several days time.

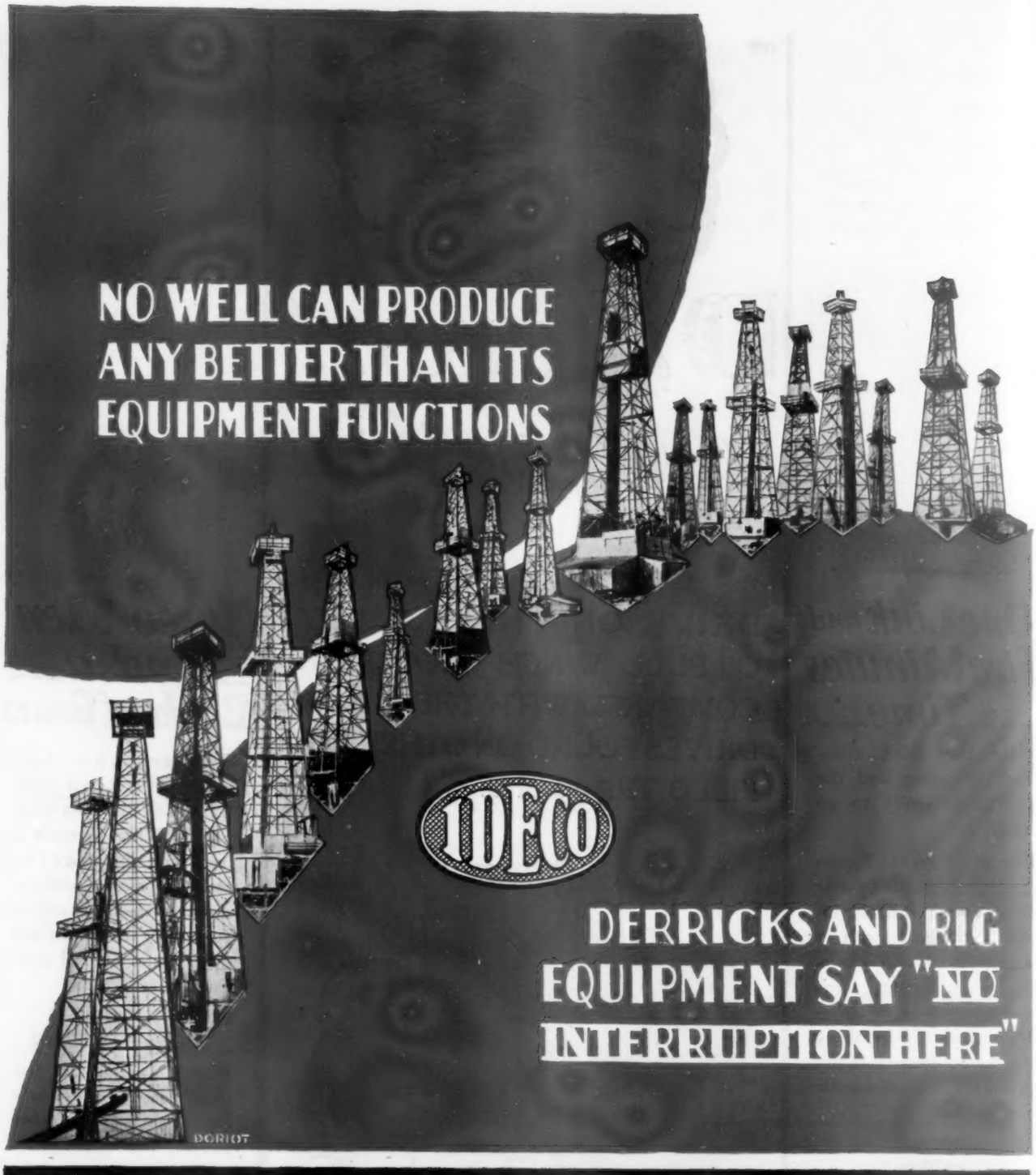
The Rumely OilPull Winch Tractor has less than one-half the working parts of any other Tractor and Winch built.

Address All Orders and Inquiries To

FRED E. COOPER

Special Rumely Representative and Developer of Oil Field Machinery

18 S. MADISON TULSA



IDECO STRUCTURAL STEEL DERRICKS AND RIG EQUIPMENT

THE INTERNATIONAL DERRICK & EQUIPMENT CO., Columbus, Ohio — Los Angeles, Cal.

Branches and Stocks—New York, N. Y.; Detroit, Michigan; Dallas, Fort Worth, San Antonio, Houston, Mexia, Wichita Falls, Pyote, Odessa, Amarillo, Luling, Borger, Corsicana, Pampa, Panhandle, Big Springs, Trent, Orange, Bruni, Texas; Shreveport, Oil City, Lake Charles, Louisiana; El Dorado, Smackover, Arkansas; Wichita, El Dorado, Valley Center, Kansas; Tulsa, Oklahoma City, Tonkawa, Drumright, Shidler, Okemah, Seminole, Allen, Sasakwa, Maud, Wewoka, Oklahoma; Los Angeles, Torrance, Bakersfield, Taft, California; Maracaibo, Venezuela.
Export Representation—74 Trinity Place, New York City; Columbus, Ohio; Houston, Texas; Los Angeles, Calif.

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The OIL WEEKLY

A GULF PUBLISHING COMPANY PUBLICATION

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SOME FACTS *Worth Knowing* ABOUT OIL STORAGE

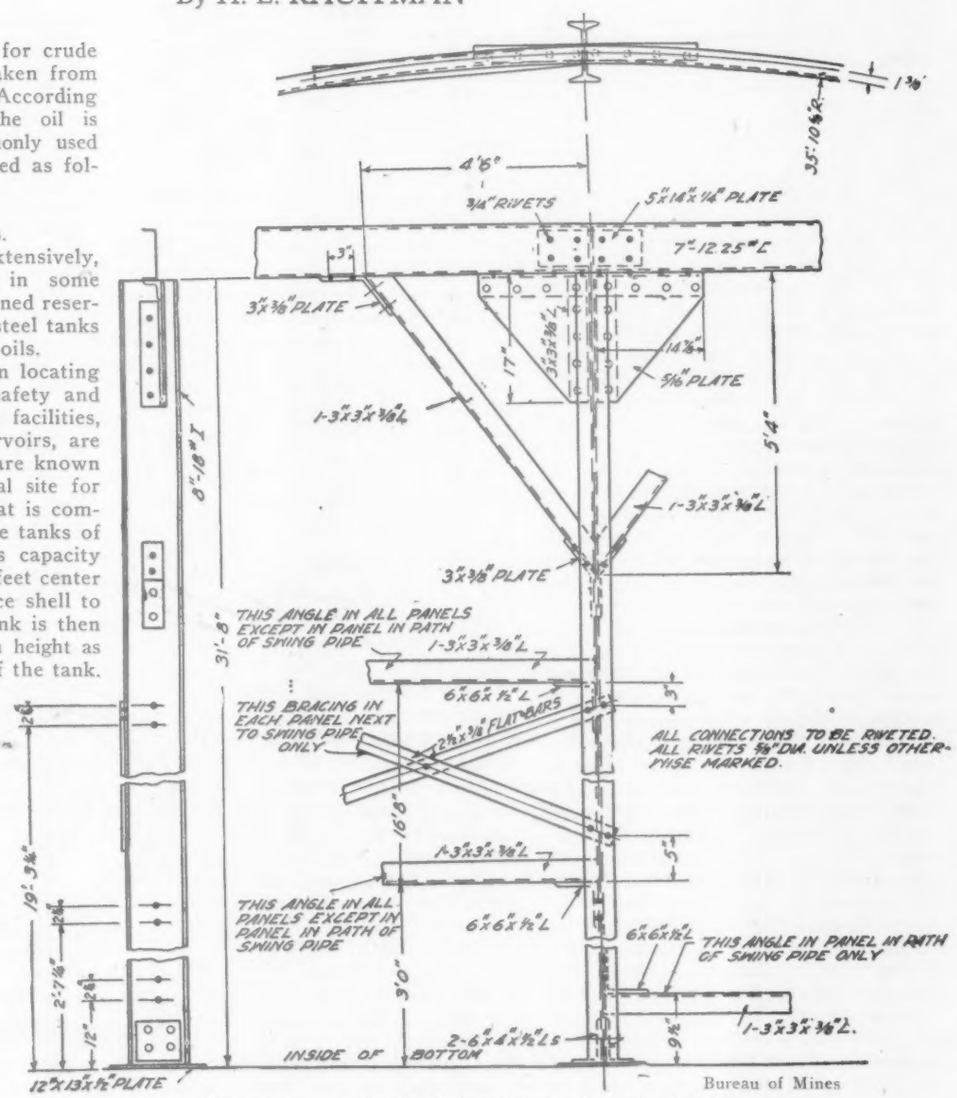
By H. L. KAUFFMAN

AMPLE storage capacity for crude oil after it has been taken from the well is necessary. According to the material in which the oil is stored, containers most commonly used for holding oil may be classed as follows:

1. Steel storage tanks.
2. Concrete-lined reservoirs.

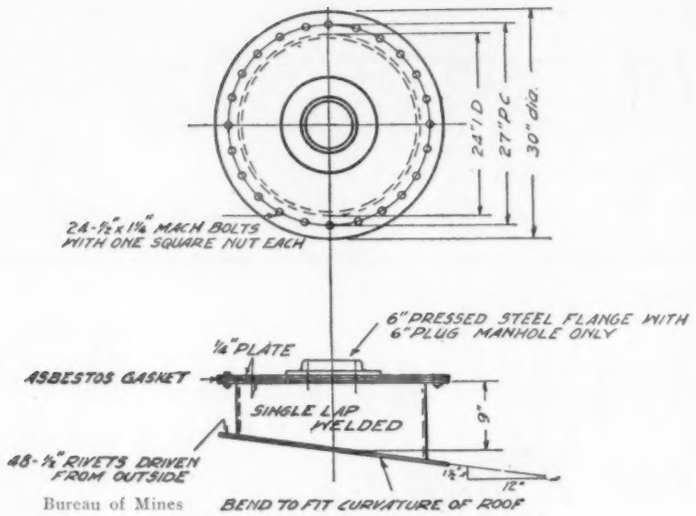
Steel tanks are used most extensively, although in California and in some parts of Texas the concrete-lined reservoir is employed along with steel tanks in the storage of heavy crude oils.

Factors to be considered in locating oil tanks are convenience, safety and ground-space value. Storage facilities, whether steel tanks or reservoirs, are grouped together into what are known as "storage farms." The ideal site for such a farm is on ground that is comparatively level. Field-storage tanks of from 37,500 to 80,000 barrels capacity are usually placed about 500 feet center to center, making the distance shell to shell about 400 feet. Each tank is then surrounded by a levee of such height as to hold the entire contents of the tank. In many instances such levees are circular, being themselves inclosed by a system of rectangular levees built equi-distantly between tanks and dividing the whole farm into a system of checkerboard squares, each tank being at the center of a square. Thus, if any one tank catches fire, it is isolated from the others; and, consequently, even though the tank may burn until its entire contents are consumed, if the levees are properly constructed it will do so with-



Bureau of Mines

Outer columns of a 55,000-barrel tank of standard design



Bureau of Mines

Typical manhole for a 55,000-barrel tank

out undue menace to the other tanks.

Steel Tanks

Tanks are usually erected by contract, the contractor furnishing all material and labor for construction, while the company provides the grades on which the tanks are placed.

Much care should be given to the preparation of tank-grades, which should be either all in fill or all in excavation and carefully graded to a true level surface. A tank that is built partly on filled and partly on excavated ground is in constant danger of being disrupted at the point where the foundation goes from cut to fill. This is due to the fact that the filled part of the foundation will settle, while the part in cut ground either will not settle at all or not to so great an extent. Where it is necessary to build up a grade, the best practice is to fill the entire area to approximately the same depth, so that settling to as uniform an extent as possible will be insured.

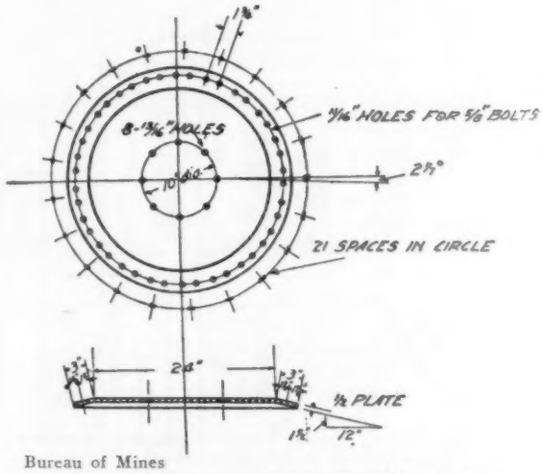
Corrosion in oil tanks occurs at three points: the bottom, the top ring and roof. The bottom is deteriorated by the corrosive action of alkaline salts contained in the soil upon which the tank rests and also from similar chemical action due to the leaking of water through an imperfect seam and forming a puddle beneath the plates. Manufacturers' standards usually call for a bottom thickness of one-quarter-inch on tanks of large size and three-sixteenths-inch for smaller tanks. This is a sufficient thickness to provide strength and tightness, but does not allow for corrosion. Increasing the bottom thickness to three-eighths-inch insures greater protection against corrosion, but whether or not so doing is an economic feasibility is a matter to be determined for the individual case. Placing several inches of oil sand on the surface of the completed grade will tend to eliminate the detrimental effect of soil corrosion. However, if this is impracticable, the completed surface should be oiled, and the oil worked in three to four inches by rakes. In all cases, the tank bottom is thoroughly coated with asphaltic or other rust-resisting paint of good quality before being lowered onto the grade. Corrosion of the top ring of a tank, at and near the usual oil-level, is due to the action of the oil-vapors and of possible condensed moisture. The roof corrodes for the same reason. The use of heavier steel is often advisable to combat corrosion of the sides, while protective paint will lessen roof corrosion.

So far as general dimensions are concerned, large steel tanks are now practically standardized. Fifty-five thousand barrel tanks, as constructed by all manufacturers, are approximately 114 feet six inches in diameter and 30 feet in height. Tanks of 37,500-barrels capacity and less are made on a smaller base. The larger tanks are of greater height or larger base or both. Steel plates in the side walls of a 55,000-barrel tank, and those of larger size, are five or six feet in width, 15 to 20 feet in length and 3/16 to ¾ of an inch in thickness. The practical limit of ring-width appears to be about seven feet. The plates are riveted together end to end to form a "ring." In a 55,000-barrel tank there are five or six rings, depending on the width of the ring-plates used. Rivets are "driven cold" where the sheets are one-half-inch or less in thickness and where the greater joint efficiency obtained by the use of hot rivets is not required. Roofs and the top rings of large tanks may well be cold-riveted, as may also smaller tanks in their entirety. A steel stairway is provided with each tank to give access to the roof for gauging. Manholes should be of flanged steel. For tanks 75 feet or more in diameter, two manholes placed diametrically opposite on the first ring (instead of a single manhole) are preferable so that cleaning of the tank bottom can be accomplished with less difficulty. Delivery to tanks is sometimes made through an overhead line ending just under the roof or extending down into the tank. More commonly the tank discharge is made through a swing-pipe, hung from the roof by a cable and operated by means of a windlass. Occasionally, the swing-pipe is floated, by which arrangement oil is always taken from the top. Some tanks are constructed so that delivery and discharge may be accomplished through the same pipe, such a pipe entering the tank as near to the bottom as practicable. This arrangement is not to be recommended when it is known beforehand that the oil may contain some settlement. A "water-bleed' is placed at the bottom of all oil-storage tanks.

Reservoir

Dirt and concrete-lined reservoirs are used only for storage of very large amounts of oil. Hastily-constructed, earthen reservoirs, known as sumps, are used when oil gushers are struck and other forms of storage are lacking. Seepage losses in reservoirs are very large. Consequently, the only value of sumps lies in large capacity and quick construction.

An important factor in the construction of a reservoir is the judicious choice of site. The soil should be of homogeneous texture, preferably a sandy clay in which clay predominates. The site should be well-drained, in order that any surface waters that might percolate through the embankment and get behind the concrete lining may be carried away and not allowed to stand, thereby eliminating the possibility of their being placed on the sides and bottom a hydrostatic pressure from without that hight cause the concrete to crack when the reservoir is empty. No site should be chosen such that the level of adjacent standing water, such as back-water from the arm of a river or bay, at any time will be above the level of the bottom of the completed reservoir. When strata or



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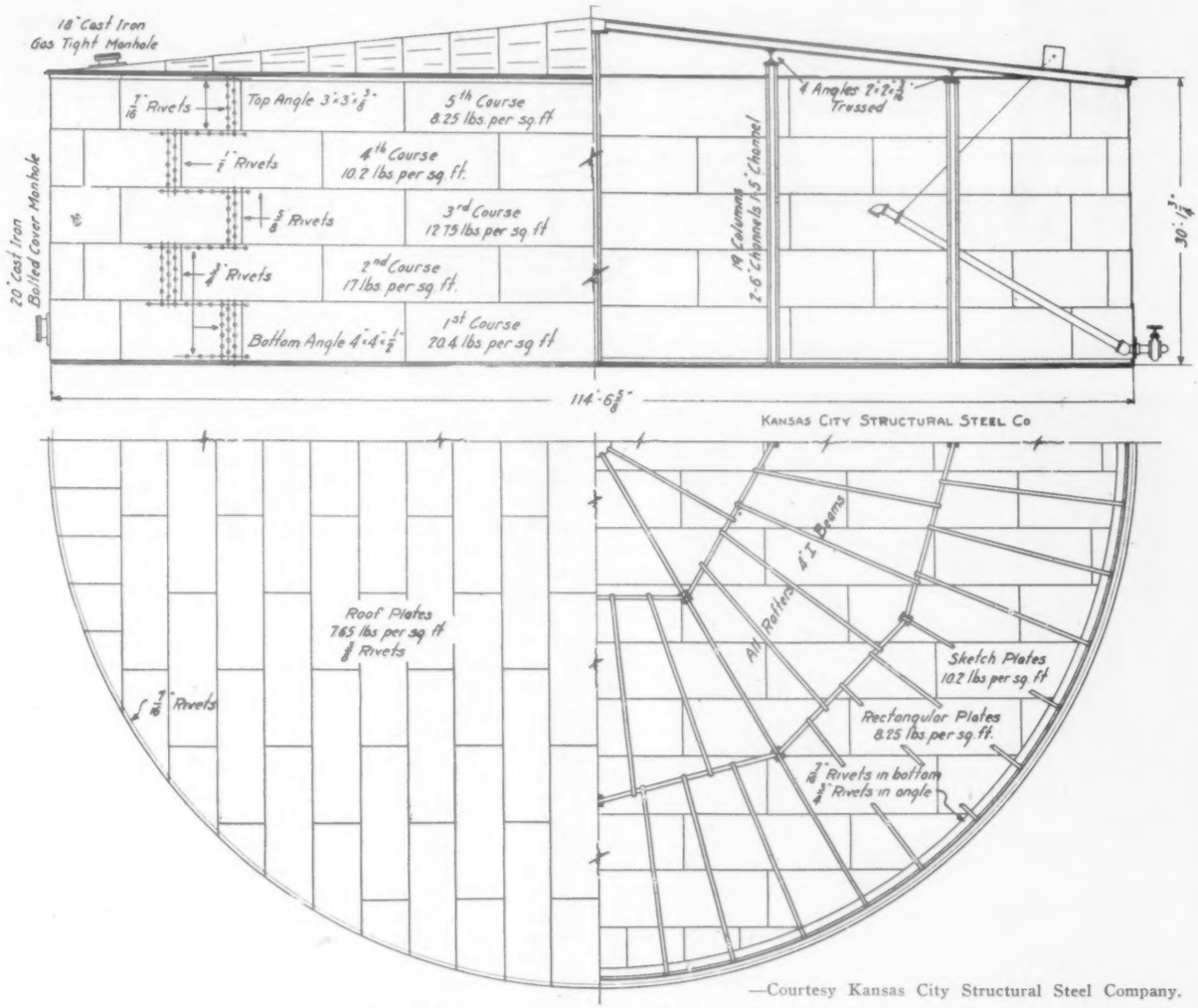
Top of a center column of a 55,000-barrel tank


18" Cast Iron Gas Tight Manhole
20" Cast Iron Bolted Cover Manhole
7/16" Rivets
Top Angle 3"x3"x5/16"
5th Course 8.25 lbs. per sq. ft.
1" Rivets
4th Course 10.2 lbs. per sq. ft.
5/8" Rivets
3rd Course 12.75 lbs. per sq. ft.
3/4" Rivets
2nd Course 17 lbs. per sq. ft.
Bottom Angle 4"x4"x1/2"
1st Course 20.4 lbs. per sq. ft.
19 Columns 2-6" Channels 15" Channel
4 Angles 2"x2"x3/16" Trussed
30'-1/4"
114'-6 5/8"
KANSAS CITY STRUCTURAL STEEL CO
I Beams
Roof Plates 7.65 lbs. per sq. ft 3/8 Rivets
All Rafters
Sketch Plates 10.2 lbs. per sq. ft
Rectangular Plates 8.25 lbs. per sq. ft.
7/16" Rivets
3/4" Rivets in bottom
3/4" Rivets in angle

—Courtesy Kansas City Structural Steel Company.

Details of a 55,000-barrel steel tank—114 feet 6 inches by 30 feet.

pockets of sand or other loose material extending into the sub-grade are encountered, they should always be removed for a distance of three feet or more below the finished excavation and then re-filled to grade with selected earth, put on in thin layers and carefully tamped. Concrete-lined reservoirs are very expensive to construct. Although they can be made of great capacity and are economical of ground space, a disadvantage lies in the fact that cracking of the concrete, thus permitting seepage, is more often the rule than the exception. The roofs of most reservoirs are constructed of wood, covered with roofing-paper. A reinforced-concrete roof is recommended for use when a more permanent type of construction is desired.

Computing Volumes of Tanks

The methods used by the various oil companies in obtaining the data necessary for computing the volumes of oil tanks, there is much discussion as to are practically the same, differing only in minor details. As regards steel tanks, there is much discussion as to just how many circumference measurements are necessary for accurate work. Some companies take only two (for a six-ring tank), the lower one being taken at the middle of the second ring and the upper, as near as practicable to the middle of the top ring. Other companies "strap" above each seam, and take one measurement six inches below the top of the tank, and one near the bottom just above the bottom row of rivets. However, it has been found that, in measuring steel tanks of standard size, a surprisingly small variation in results will be obtained if circumference measurements are taken on each ring, or if only the top and bottom rings are measured and the circumference of the others computed. On the other hand, tanks on poor foundations causing them to be "out-or-round" and producing bulging, uneven sides may require a large number of measurements to insure accuracy. For a detailed description of the procedure to be followed in computing tank volumes, see Bureau of Mines Bulletin No. 155, "Oil Storage Tanks and Reservoirs," by C. P. Bowie.

Computing Gauge Tables for Tanks

From the circumference of each course the outside diameter of that course is computed, and by subtracting twice the thickness of the metal the inside diameter is determined, giving a value from which the gross area of the course is determined. From this is subtracted one-half the area of the vertical laps and the area of the horizontal segment, giving the net area (plus the deadwood). As the circumference is measured approximately in the center of the sheet, the net-area value is considered to be a mean area for the course.

The volume in barrels per course, including the deadwood, is then calculated and the volume in barrels per one-fourth-inch per course. Next the volume of the deadwood per course is determined and the volume of the deadwood per one-fourth-inch per course. Then a table is prepared showing the quantity in barrels to be added for each one-fourth of an inch proceeding from the bottom of the tank upward. The construction of the gauge table then resolves itself into the summation of the proper increments. If it were desired to have the gauge table read to one-eighth-inch, the same method of computation would be pursued. In buying and selling crude oil it is customary

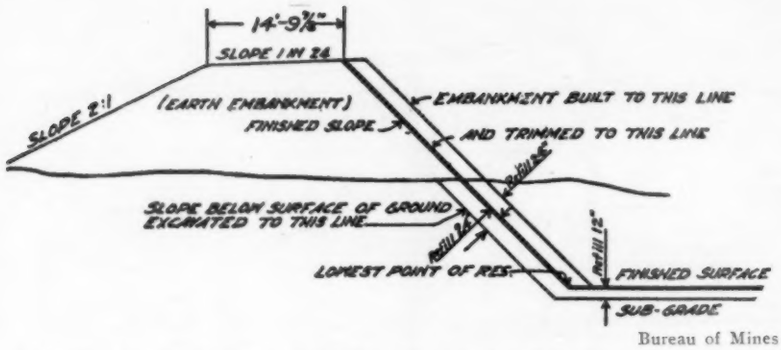


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Diagram of floor and embankment construction for concrete reservoir

to read the gauge tape to the nearest one-eighth of an inch and interpolate in the table to find the correct volume.

Each step in the computations should be carefully checked. One-fourth-inch totals must equal totals for courses calculated by subtracting the volume of the total deadwood in the course from the total volume of the course, and totals naturally must agree with a separate computation for the whole tank in which figures for total tank-volume and total deadwood are used.

As a final check on the whole work a second man should be required to make an independent calculation not quite so complete as the first, but one that must check the total contents of each course and the total contents of the tank. Gauge tables are made to read to the nearest one-hundredth of a barrel.

Gauging

Gauging is the term applied to the act of measuring the depth of oil in a tank, or ascertaining the amount of oil contained therein by measuring the distance of the surface of the oil from the top of the tank. Float-gauges are the most accurate form of gauge. In its functioning the float rides on the surface of the oil always at the same point, part of it sinking into the oil, but always to a constant distance. The float is connected by a chain or cable across a pulley placed at the top of the tank to an indicator which moves over a fixed scale. The scale may be arranged to read either depth of oil or the distance from the oil-surface to the top of the tank, which latter is known as "outage gauging." Outage gauging is nearly always used for tanks with sloping or conical bottoms (or other containers, such as agitators), and for tanks that are always gauged when almost filled e.g., tank-cars. Float-gauges are often used as rough indicators of the amount of oil in tanks, since such gauges show at a glance (and from a considerable distance) the approximate gauging. Gauge-rods of wood with the scale marked thereon, or graduated, steel tape-lines with a plumb-bob on the end are used more generally than any other form of gauge. Such measuring means are lowered into the oil, vertically, until the bottom of the tank is reached, then withdrawn, and the length of the tape or rod wetted by the oil is read. Care should be taken to lower the rod verticalily, always as near to the same place as possible, and to withdraw it easily without agitating the surface of the oil. The rod or tape is chalked at the bottom when it is desired to learn the approximate amount of water in the tank: water wets a chalked surface whereas oil does not. The personal equation is an important factor in rod or tape-gauging, as very seldom do two men obtain the same reading in a given case. Gauge-readings should be recorded immediately after being taken.

Effect of Temperature on Gauging

The temperature at which a tank of oil is gauged should always be recorded if an accurate reading is desired, same being necessary due to the *thermal expansion* of oil. The standard temperature for the measurement of a volume of oil is 60°F., to which temperature the volume-readings at all other temperatures must be corrected. The fraction of its volume which anything expands for a rise in temperature of one degree Fahrenheit is called its *coefficient of expansion*, which numerical figure, for petroleum oils, varies somewhat with the temperature range and differs with a change in gravity as shown below:

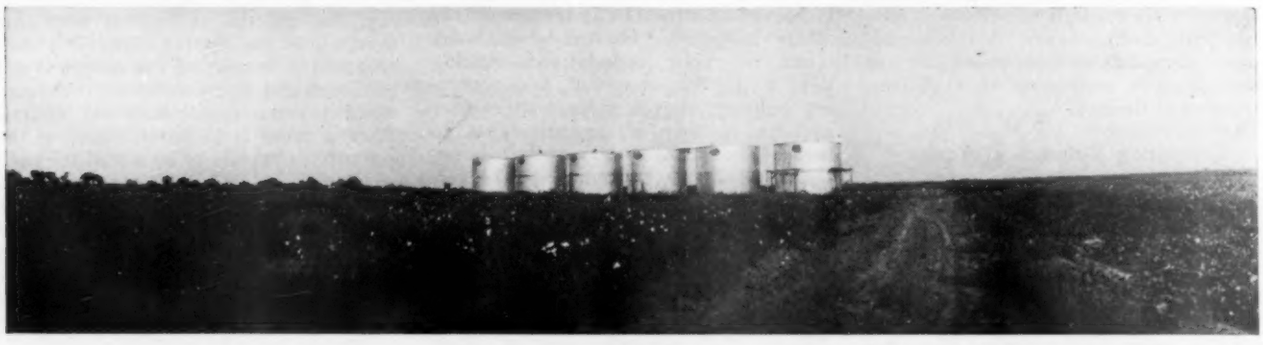
Gravity range ° A. P. I.	Coefficient of expansion
79.0 and lighter	0.0008
78.9 — 65.0	0.0007
64.9 — 51.0	0.0006
50.9 — 35.0	0.0005
Heavier than 35.0	0.0004
Pitches	0.00038

If the oil in the tank is under 60°F., the correction is added to the volume reading of the quantity of oil measured; if over 60°F., it is subtracted. A frequent practice for approximate results is to subtract or add one per cent. for temperature differences which vary with the different oils as follows:

	Temperature difference °F.
Gasoline	15
Kerosene and heavy naphthas	20
Gas oil, fuel oil and lubricating oils	25

Use of "Thiefs"

When it is desired to obtain a representative sample of oil from a tank, this may be accomplished most conveniently by means of a piece of apparatus called on "oil-thief." The thief can be lowered to any desired depth in the oil and there opened, taking a sample of oil at that point in the container. Thiefing is also sometimes resorted to in "checking-up" on the amount of water contained below the oil-layer in a tank, this being water present therein at such height that it can not be removed through the water "draw-off" pipe. The water content of an oil tank must be subtracted from the gross volume. Measurements for water are usually only necessary for inventories, or when an empty tank is filled, a tank pumped out completely, or when water is drawn-off. Water measurements may be neglected for ordinary transfers of oil, where the difference between a "before" and "after" gauge is entirely represented by oil volume.



Battery of flow tanks on the Bracey Lease in the Raccoon Bend Field, Austin County, Texas

Trinidad Drillers *Develop Method Of Handling* High Pressures

By R. E. LEIGH
Special Foreign Representative

CABLE-tools and pole-tools were used by the early pioneers, many of whom came to Trinidad from Pennsylvania; but the "up-and-downers" had to give way to the "'round-and-arounders" in a country for which the rotary methods is ideally suited. Trinidad is characteristically a soft-rock country, the geologic column consisting chiefly of shales and soft clays, interspersed with sandy shales and soft sands. There is practically no limit to the amount of hole which can be cut in a tour, if conditions are favorable, and if the driller "pours it on her." However, slow drilling is the rule, in order to "wall up" the hole, or plaster its sides to prevent the caving of these soft, unconsolidated formations.

Until 1928, operations were limited to shallow drilling—depths ranging from 100 feet in the Fyzabad and Bernstein fields to 3000 feet at Fyzabad and Parrylands. The average of drilling depths might be placed between 1400 and 1500 feet. "Oil is where you find it" among the sharply-folded strata of Trinidad. Dips are steep and erratic; and oil sands are correspondingly irregular. Consequently, there is no uniformity in depths at which production is found. If exception is made of two deep tests drilled last year, it may be said that the surface of the island's oil-bearing formations has only been scratched. The tertiary rocks, of which about 50 per cent. are oil-bearing, range from 6000 to more than 12,000 feet in thickness. With the exceptions noted, only about 3000 feet of these formations have been penetrated by the drill.

The Apex Oilfields, Ltd., drilled a couple of deep tests on the San Francique dome last year, in which substantial production was found at depths of 4000 and 5000 feet. The success of these initial efforts in deep drilling seems to indicate a bright future for the further expansion of the colony's oil industry; but, due to the heavy expense of operating in tropical countries, it is not to be expected that any boom will immediately result from this discovery.

A geologic column roughly characteristic of the Southern Basin is given below:

R. E. Leigh inspecting out-crop of oil sand near Guapo, Trinidad

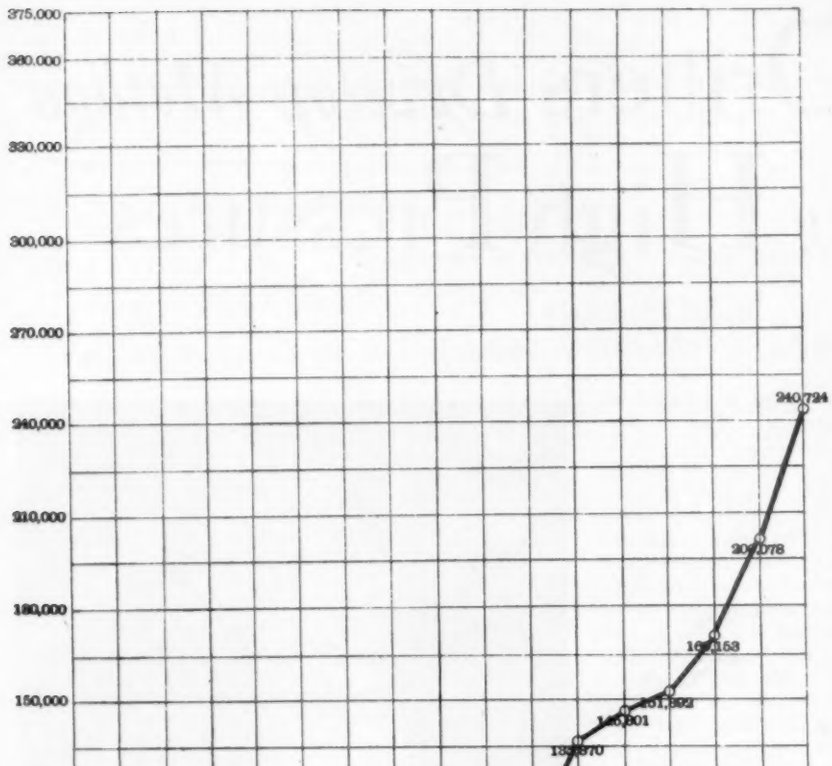
Age	Formation	Approximate Thickness in Feet	Description
		Tertiary	
Upper Miocene	La Brea	300 to 7000	Clays, sands, porcelanite, and lignite.
Upper Middle Miocene	Morne L'Enfer	650	Oil sands and clays
Lower Middel Miocene	Cyclamina or "Forest" Clay	0 to 130	Greenish clay
" "	Stollmeyer	350	Productive oil sands, sandy clays, and clays.
" "	Intermediate	650	" " "
" "	Cruze	620	" " "
" "	Well No. 34	420	" " "
Lower Miocene	Well No. 35	800	Oil sands, sandy clays, and clays.
" "	Upper St. Croix	500±	" " "
Oligocene	Lower St. Croix	500±	Oil sands, sandy clays, shales, and occasional lenses of limestone.
Eocene		1000±	Oil sands, shales, sandy shales, limestones, and conglomerates.
		Cretaceous	
	Guanoco shale	3000	Oil sands and oil-bearing shales
	Laventille limestones	800	Hard blue-gray limestones, occasionally containing oil.

Both the Tertiary and Cretaceous series are petroliferous, and both produce oil in Trinidad and/or Venezuela.

Coring Necessary

Due to erratic structural conditions, and to the general absence of recognizable geological markers, every drilling operation partakes of the nature of a wildcat test well. The Forest Clay contains foraminifera which make possible its identification and use as a guide or uncertain dependability at Forest Reserve and San Francique; but elsewhere wells must be cored practically all the way from the grass roots to the oil sand. Operators are unable definitely to plan their casing programs, as casing seats and producing sands must be sought with the core-barrel in each well. Thus, there is lost in coring all the advantages which the soft formations would otherwise give.

In most instances, wells are finished with water strings of large diameter, such



Curve showing total number of feet drilled in Trinidad from April 1, 1911, *to December* 1, 1927

as 8¼-, 10- and 11-inch. In wells where production is sought at depths greater than 1000 feet, surface pipe is set between 200 and 400 feet, and the water string is carried as near as possible to the top of the producing horizon. Bailing and other tests of casing seats and water shut-offs are witnessed by a government official, called Oilfield Water Inspector, whose approval must be had before drilling is resumed.

As tremendous gas pressures are often encountered, it is customary to drill in with screen or perforated pipe and fish-tail bit, etc., assembled on the bottom of an oil string or liner, for which flush-joint pipe is sometimes used. This assembly (oil string, screen, and bit) is left in the hole upon completion. Blow-out preventers are almost always used.

Handling Pressure

Trinidad operators have developed a very successful and effective method for drilling in under pressure and controlling wells at the crucial period which follows the penetration of high-pressure sands. The use of a 40-foot "grief joint" constitutes its basic idea. A special joint of 6-inch, 23¼-pound 40-foot seamless drill pipe is substituted for the usual square or fluted kelly joint. The drill pipe is rotated by means of a clamp with protruding arms affixed to the grief joint at a convenient height (about five feet) above the rotary table. These arms are engaged and rotated by special posts extending upward from the rotary. The drive-clamp is readjusted upward from time to time, as drilling progresses. The pressure is controlled inside the drill pipe by the use of a series of back-pressure valves supported by pump-pressure and reenforced by a master gate placed between the swivel and the grief joint. The flow outside the drill pipe is controlled by the blow-out preventer and a lead-seal stuffing box installed in support above it. Single joints of drill pipe are added as each 20 feet of hole is cut, which always leaves 20 feet of the grief joint protruding. Thus, the driller is at all times assured of the opportunity to make 20 feet, or more, into the productive sand after penetrating a zone of high pressure and before having to stop to make a connection.

It is said that in the early days when wild wells were considered as inevitable in Trinidad, the drilling crews were wont to "cut and run" when high pressures were encountered, leaving the wells to flow wild until they sanded up or went dead from natural causes. The costliness of such a practice can be realized when one considers that one wild well cost its owners over $100,000 in pollution and damage claims. However, with the method outlined above, wells having 2000 pounds or more of pressure can be controlled with absolute safety, if necessary equipment is provided and precautions are taken before drilling in.

Rotary rigs of semi-portable type are commonly used in Trinidad, although United British Oilfields, a Shell subsidiary, uses machinery of the heavier sort, as used in California fields. Twin-cylinder drilling engines are coming into favor. Heavier equipment will be required as/ when development of the newly-discovered deep sands is undertaken in a general way. One can find all vintages of oil-field equipment in Trinidad, from the oldest to the newest. At least one old grip-ring rotary, manufactured in Tennessee by the Southern Well Works about 20 years ago is still in service there.

Tubular goods and staple, equipment such as boilers, steam engines, etc., are customarily purchased in Europe on price basis. Drilling equipment, specialties, and patented tools are bought on quality basis in America. Steel derricks are seldom used, although derrick lumber (except local hardwoods used for foundation timbers) is imported from Louisiana and Mississippi.

Manufacturers of cable-tool equipment are given but little business in Trinidad, as, with few exceptions, standard rigs are used neither for drilling nor for pumping. Spudding machines are used for the shallow drilling at Tabaquite; elsewhere the rotary method prevails. Individual pumping units of the steam- and gasoline-driven types are extensively used. Central powers have not been utilized to the extent which their use would seem to be indicated. One may find an occasional bandwheel power (called "turn-table" by the British), but he will see more of the geared and push-and-pull types.

Likewise, steam has only begun to give way to more modern sources of oil field power. Steam engines have been retained beyond their allotted time in fields where gas- and oil-engines could bring about substantial savings in fuel. Steam engines are preferred because of their simplicity

of operation by negro labor. However, one feature of a policy of modernization and expansion now being pursued by Trinidad Leaseholds consists of the electrification of its Forest Reserve Feld, Fyzabad; and it is probable that the majority of that company's wells will be motorized before the end of the year.

Pumping

Floating sand constitutes a serious problem in pumping practice, in most cases prohibiting the use of ordinary working-barrels (valves and cups) and requiring the installation of sand pumps of the fluid-packed or plunger type. Very little water is present in the producing sands.

The operators' greatest difficulty is with irresponsible negro labor, which is seldom capable of being entrusted with the operation of complicated machinery. However, one marvels at their ability to utilize negro labor to the extent which they do. Drilling crews are composed entirely of negroes, supervised by white drillers who, in the case of several of the British companies, are aided by white apprentices. The roughnecks are bossed directly by "headmen," who in turn are responsible to the drillers. These colored headmen are usually capable of handling the rigs in routine operations. The throttle and brake are entrusted to them while "going in" and "coming out" with drill pipe, and often while drilling if everything is running well. However, negro drillers are never allowed to handle fishing, drilling in, or other jobs requiring a higher degree of intelligence.

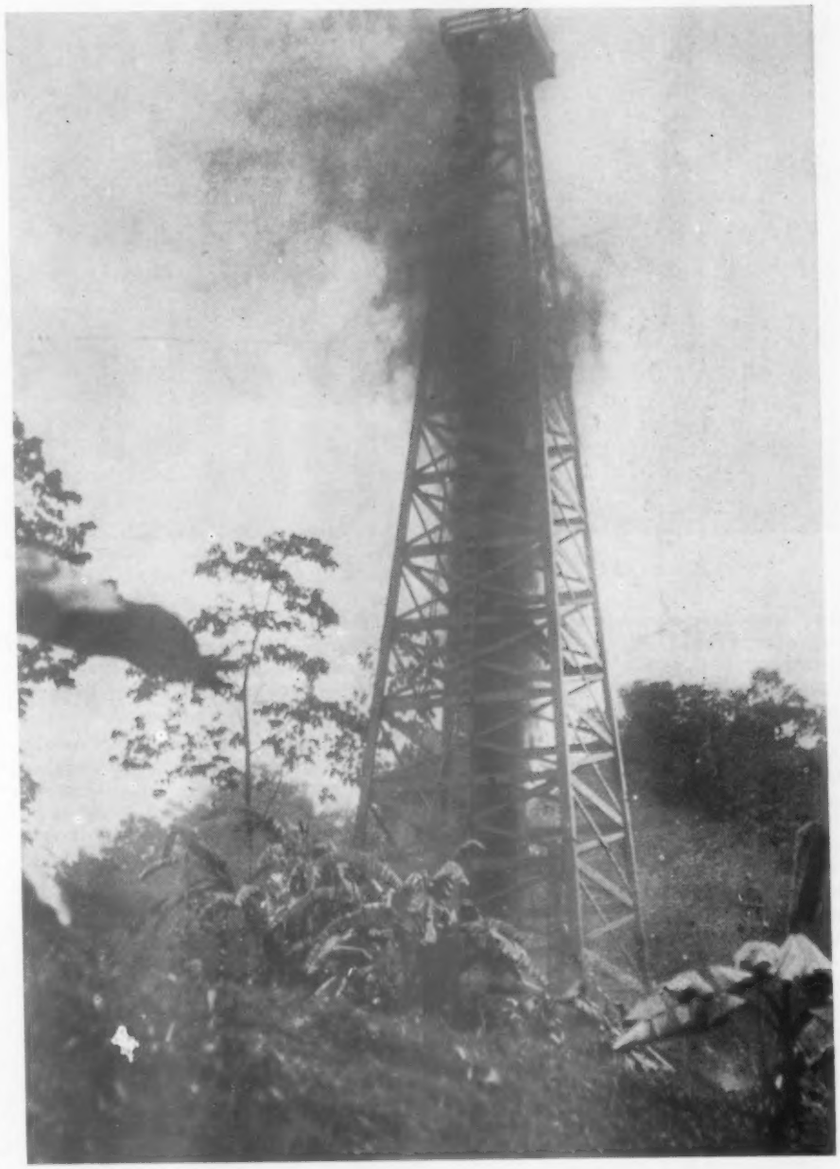
Labor

Production gangs are entirely colored, but work under the supervision of white foreman. The "gang-pusher" type of straw-boss, in whom so much reliance is placed in production operations in America, is entirely lacking in Trinidad. Authority is often delegated to negro foremen, who thereafter consider it beneath their dignity to do manual labor. The umbrella seems to constitute their badge of authority, as negro straw-bosses generally carry parasols to protect their complexions. The airs they put on are very amusing.

Foremen, headmen, skilled mechanics, and boss rig-builders receive from $1.80 to $2.40 per day. Roustabouts, roughnecks, carpenters, and pipe-fitters receive from $1.00 to $2.00 per day of 10 hours. Laborers and other workmen receive from seven to 12 cents per hour. Unskilled workmen, women, and boys receive as low as five cents per hour for dirt-work and other menial tasks. These rates compare with a local wage of about 40 cents per day paid to agricultural laborers and from $1.00 to $2.40 per day paid to mechanics, carpenters, and other artisans.

Cheap labor does not seem to result in low operating costs, as might be expected. Sir Thomas Holland, the authority quoted above, estimates that drilling costs average $20 per foot, material included; and his estimate of lifting costs is placed at 57 cents per barrel.

All responsibility is in the hands of foreign experts, English, Scotch, and American. British talent is employed to a greater extend in Trinidad than elsewhere in foreign oil operations, due, of course, to its being a British possession. A number of natives of the better class have mastered the rotary driller's trade, and others have become proficient in production operations, construction, rig-building, and road-building. Englishmen and Scotchmen are generally employed in the latter trades and in mechanical work, but only rarely to they become drillers. There is at least one Russian driller in Trinidad, out of a number who were imported from Galicia several years ago.



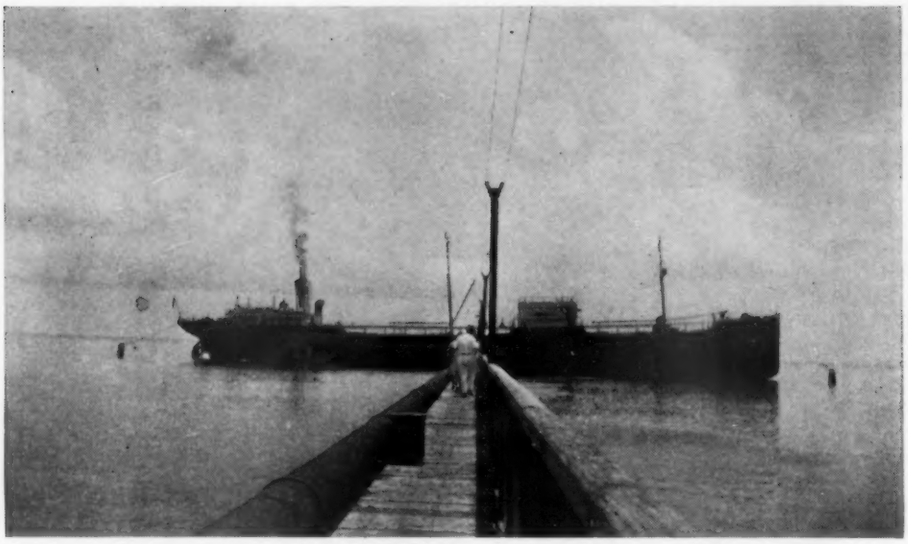
Initial flow from Trinidad Oil Fields Operating Company, Ltd.'s Huggins well No. 102, Palo Seco, Trinidad

Local drillers are paid at the rate of $12 per day, with board and lodging free. Foreign drillers are employed under two- and three-year contracts, at salaries of from $350 to $400 per month, plus subsistence in cash or in kind. Such contracts allow one month foreign leave out of each year of service, plus travelling expenses both ways, in addition to which the companies provide free medical attendance. Family men are provided with furnished bungalows and other conveniences, including light, water, and kitchen fuel.

Transportation

All passenger traffic, and practically all freight, between the United States and Trinidad is routed through New York, the distance being about 2000 miles—six to eight days by steamer. Oil well supplies are discharged at San Fernando, an oil center about 40 miles south of Port of Spain and from 15 to 25 miles north of the various oil fields in the southern part of the island. Machinary and supplies are transported by motor trucks from this point to the field warehouses.

Trinidad being under British rule and possessing an abundant supply of road material in the famous asphalt lake and in the less-known deposits of porcelanite, enjoys excellent roads. That is, they com-



Beacon Oil Company's tanker loading at La Brea, Trinidad

pare very favorably with the highways of other Central and South American countries; but, as they follow the old Spanish trails, they are too narrow and crooked to be mentioned in the same breath with the highways of the United States. Short, steep hills and the left-hand rule of the road detract from their enjoyment by Americans. While not suitable for joy-riding, they are entirely adequate for all the requirements of industry and oil operations. The colony is well served with a total of 1716 miles of main and local roads. The colony has almost one mile of road for each square mile of its area.

Living Conditions

As foreign assignments go, Trinidad is among the best; but this does not imply that Americans accustomed to city life in the United States will not encounter certain hardships there. Apart from the rainy season, the climate is delightful, seldom too hot and never too cold. The thermometer ranges between 70° and 80° F., or 20 degrees lower than summer temperatures in the southern part of the United States. The nights are cool and agreeable. The majority of the oil camps, being situated on the seashore, receive the benefit of cooling trade winds; and the oil people, therefore, are much more comfortable than the city dwellers of Port of Spain, where the mountains obstruct the breeze.

It is the policy of the oil companies to provide clean, comfortable, sanitary, and well-constructed bungalows for the use of the married members of their staffs. While constructed along different lines and with less ornate finish, in order to conform to tropical conditions, these houses (exclusive of servants' quarters, which are also provided) are equivalent to four-, five-, and six-room cottages in America. They are built "on stilts," so to speak, their floors being from 10 to 12 feet above the ground, for purposes of ventilation and sanitation. No glass is used in their construction, about half of their wall-space being left open, except for mosquito-netting, to admit the breezes. Running water, baths, electricity, and sewer service are generally provided. Most of the oil companies provide all essential articles of furniture; and some of them furnish linen, cutlery and china.

Men in responsible positions are usually provided with automobiles, which go far to make life more enjoyable, even to a greater extent than in America. The radio (called "wireless" by the British) is very popular in the oil fields. Owners of long-wave receivers hear programs from several stations in the eastern part of the United States, such as New York, Pittsburgh, Cincinnati, Newark, Miami, and Shreveport. Short-wave enthusiasts receive programs from London, Paris, and other European stations. Frequent dances are given at the various oil-field clubs. The moving picture shows are not extensively patronized by white people. Tennis and sea-bathing are very popular.

New-comers find it necessary almost to revolutionize their habits of life. The facilities and conveniences to which Americans are accustomed are mostly lacking; and one's menu is restricted, somewhat. However, the cheapness of household servants serves to make up for these deficiencies. A staff of five domestic servants can be empoyed for less than $40 per month, plus board and lodging. A complete and well-balanced menu can always be had; but it will include little or no meat except fish and fowl, and will lack many delicacies to which people from temperate climate are accustomed. Northerners usually have to acquire a taste for local fruits and vegetables, such as paw-paws, mangoes, plantains, avocado pears, christophenes, eddoes and numerous tuberous roots; but all of them are good after one's palate has become acquainted with them. Green cocoa-nuts are highly prized among the initiated. Their water is the only safe drink, when one is in the field; and their jelly is delicious. A delightful sherbet is made from the water and jelly of immature cocoa-nuts.

Negro pipe line crew laying 12-inch loading line near La Brea, Trinidad, for Trinidad Oil Fields Operating Company, Ltd.

The ready availability of good Dutch beer and other alcoholic liquors compensates many Americans for other things which they must do without. However, heavy drinkers do not long survive the hardships of tropical employment. Perhaps for this reason, moderate or light drinking is the rule among sojourning Americans. One even finds a number of total abstainers in the oil fields.

Except for malaria, which is not nearly so prevalent as in other tropical countries, Trinidad is a healthy colony. The death rate in 1927 was reported as only 18-71 per 1000, the lowest figure on record.

Trinidad is a good customer of the United States in the matter of oil field machinery and equipment. Her imports from our country exceeded 2¾ million dollars in 1927.

Raccoon Bend

A field in the Gulf Coast Country that is being developed unhurriedly, according to advanced ideas of conservatism

By JACK LOGAN
Staff Representative

HOUSTON.—With three distinct pay horizons already revealed there, and with the possibility that the deepest of those three may eventually prove in reality to be two separate sands, making a total of four pay levels within 3350 feet of the surface, the Raccoon Bend field in Austin County stands out as a particularly interesting area, with vast potentialities for production of both oil and gas.

Early development at Raccoon Bend, beginning about January 1, 1927, resulted in the discovery of a sand at 1000 feet in which were completed numerous gas wells, making as high as 15,000,000 feet of gas, as well as several oil wells making as much as 35 barrels daily of heavy, black oil, testing around 17.5 gravity. The Raccoon Bend discovery well was Humble Oil & Refining Company's Walton 1, which came in about February 1, 1927, for several million feet of gas at 1032 feet.

A year later, in January, 1928, in the south end of the present field, a test which had started out originally as another of the 1000-foot wells, was carried down to 3259 feet and completed for 500 barrels of 23 gravity oil. That test was the Gotosky 2 of Humble Oil & Refining Company and Valley Oil Corporation (who, incidentally, jointly control practically the whole field and have been the only operators there).

Following completion of Gotosky 2 most of the activity of the field has been devoted to further development of that deep pay. In drilling to the 3300-foot level, however, some unlooked for conditions have been brought to light, indicating the existence of oil and gas reserves not revealed in previous drilling. In the middle of the present field, for instance, one test, Urban 2, headed for the 3300-foot horizon, had a gas blowout at 2327 feet, showing the presence of a highly prolific gas sand at that level. And in the north end of the field, on the Bracey and Beal lands, good wells were brought in at approximately 3350 feet, being slightly deeper than the Gotosky and Grawunder wells in the south end of the field. Being at about the same depths, the Bracey and Beal wells would have appeared to be producing from the same sand as the Gotosky and Grawunder wells, but for the fact that they are producing an altogether different grade of oil. The Bracey and Beal oil is much lighter, being around 32 gravity, whereas the Gotosky and Grawunder wells make 23 gravity oil.

The wells on the Bracey and Beal lands are about two miles north of those on the Gotosky and Grawunder leases, and it is possible that some irregular condition, a dip of formations, only makes the wells of the north end of the field appear to be producing from the same sand as those in the south end, while in reality there may be two different sands, found at the same depth from the surface in different parts of the field on account of the dip.

In other words, it is possible that farther down in the Gotosky and Grawunder, the light oil of the Bracey and Beal will be found in another sand; and that higher up on the Bracey and Beal, showings of oil around 2990 feet will develop into an extension of the sand in the south part of the field. Supporting this possibility is the fact that Hardy 2 in the north part of the field, is producing 21 gravity oil at 3256 feet; if deepened it may yield the light oil.

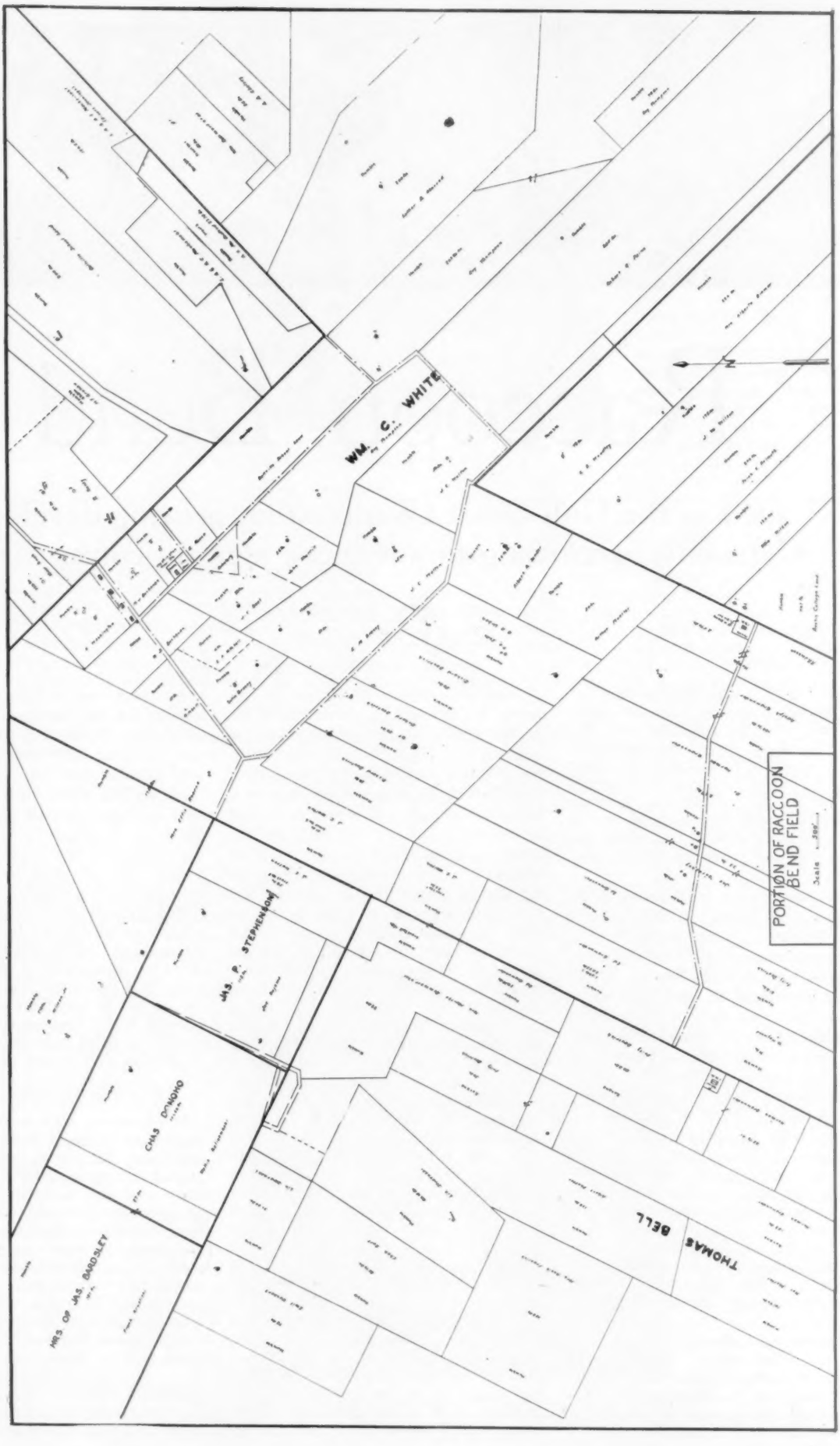
As yet the outside limits of the field have not been outlined, particularly insofar as the deep pay is concerned. As regards the 1000-foot sand, a considerably greater area has been proven, but even its limits have not been defined.

Considering only the area which has already been proven, and supposing that the oil sands underlie the 1000-foot gas sand, there are approximately 3000 acres inside now. This makes the Raccoon Bend field far greater in area than any other Gulf Coastal field. The largest of the other Gulf Coast fields, in point of proven acres, is Humble, with around 1875 acres.

Test for Extension

In connection with possible future extension of Raccoon Bend production, a test which The Texas Company has just started drilling on John R. Young's land three miles east of Raccoon Bend will be of particular interest. That test, The Texas Company's Young 1, is located 1320 feet north, 80 degrees east, and 1320 feet south, 10 degrees east, from the extreme northwest corner of the J. R. Young 715-acre lease. Logs of wells drilled by Humble-Valley at Raccoon Bend reveal that the dip of formations in the Raccoon Bend field is upward, toward the east. If no reversal of dip occurs, the same lower oil sands should be found on Young's place too. Furthermore, if the dip should reverse and travel downward

Map of a Portion of Raccoon Bend Field, Austin County, Texas



before reaching Young's land, a test drilled there would get down into salt water. At any rate, it is upon this possibility of an extension of the Raccoon Bend field that The Texas Company is basing its test. The Young land is in the western edge of Waller County, with the Brazos River just west of it and between it and Raccoon Bend.

John R. Young's land, sometimes referred to as Young's Ranch, first attracted attention over a year ago by virtue of a torsion balance survey made for Mr. Young by James C. Templeton of the Geophysical Prospecting Company of Houston. Through that survey Mr. Templeton concluded that there was a salt dome beneath Young's land and adjoining lands leased by Young. On the strength of that survey, Mr. Young drilled two tests, one on his fee land and one on the County Farm 200 acres, abandoning the former at 1500 feet in shale and the latter at 2075 feet in gumbo. The 2075-foot test was near the top of the dome that was reported to exist there. By virtue of these tests, neither of which indicated the existence of a dome, the probability of a dome being present came to be discounted. It has been suggested that perhaps what was interpreted through the torsion balance work as a salt dome on the Young land may actually be a structural condition which will prove ultimately to be an extension of Raccoon Bend formations.

In drilling its present test, however, The Texas Company is not taking the torsion balance survey into consideration; basing its hopes only on the possibility of the extension of the Raccoon Bend pay. The test is located as near as possible to Raccoon Bend.

An idea as to the extent of the upward-eastward dip of the Raccoon Bend sands may be formed by considering that of the Humble-Valley wells. Gotosky 3 is about 300 feet east of Gotosky 2 and its depth is 12 feet less; while in turn, Grawunder B-1 is 200 feet or so east of Gotosky 3 and lacks five feet of being as deep. Similarly, in the north part of the field, Bracey A-1 is 500 feet east (and 300 feet south) of Bracey B-1 and is 27 feet shallower, while Walton 2 is 1000 feet east (1500 feet south) of Bracey A-1 and is 58 feet shallower than it.

What bearing this dip will have on the area which The Texas Company is now drilling remains to be seen. But if the deep sands actually extend beyond the Brazos to Young's land, then it is quite conceivable that Raccoon Bend would effect the oil market, because such an extensive field as that is almost beyond comprehension.

No Salt Core Located

Since it is farther inland than most of the domes of the Texas and Louisiana Gulf Coast, and since no salt dome core has yet been located, Raccoon Bend ordinarily is not considered a salt dome. But it is only a few miles farther inland than Hockley and some other known salt domes. It is said to show "salt dome conditions," like Goose Creek, a prolific Gulf Coast field where no salt has yet been found. However, the presence of a dome at Raccoon Bend was not indicated through torsion balance and seismograph tests that were made on t he property.

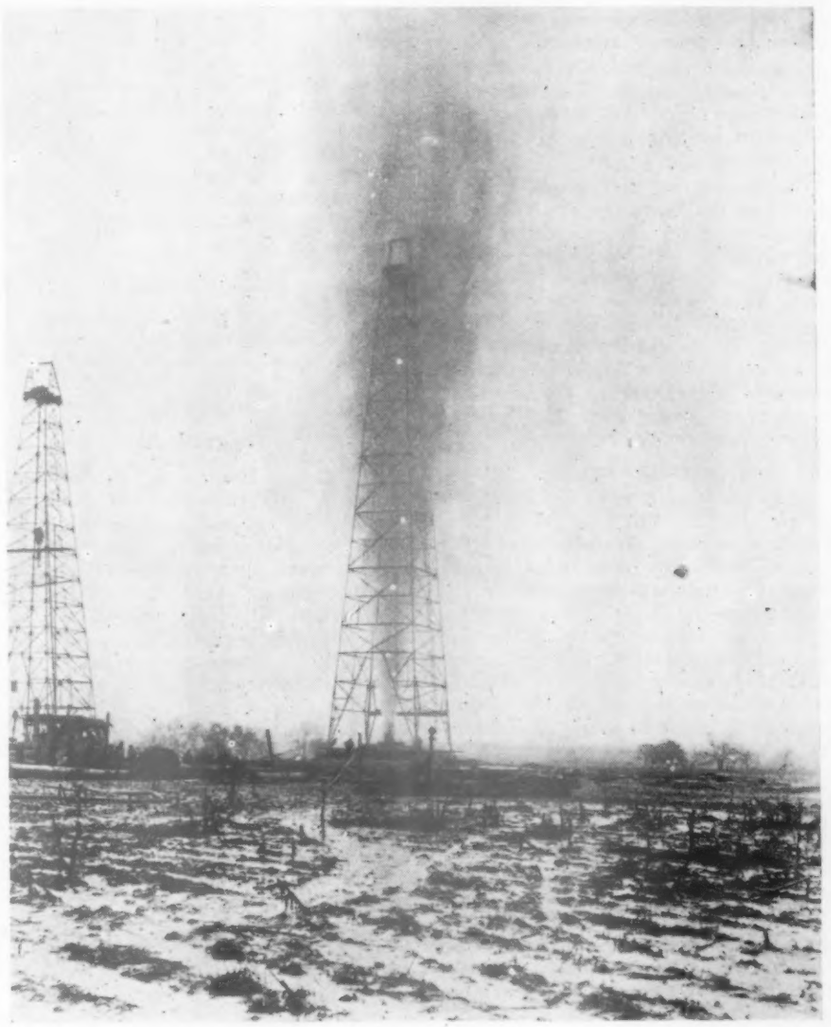
The deep production at Raccoon Bend is from shales classified as formations of Jackson age. In most cases in fields of the Gulf Coast the production is from the Oligocene, with limited quantities coming from the base of the Miocene. But instances where the salt dome fields are producing from the Jackson are not unknown, the Humble field, Harris County, being one dome that has such production. Besides this similarity in source of production, the Raccoon Bend and Humble fields, as mentioned above, are alike in that they have extensive area.

Among the first to recognize the possibilities for oil production at Raccoon Bend was Harry Pennington, mechanical engineer and independent operator of San Antonio, who was particularly familiar with the area, having once lived near there at Brenham. Among the indications were gas bubbles in shallow water wells in the district. Mr. Pennington became actively interested in Raccoon Bend in October, 1925, and began obtaining leases to form a large block, which is included in the present field. In April, 1926, he made a deal with H. T. Staiti, head of the Valley Oil Corporation of Houston, for development of the area; and the first test was drilled by the Valley company. That test, Valley's Thompson 1, found the 1000-foot gas sand, and although not completed as a gas well, was in a sense the discovery well.

Susbsequently the Valley Oil Corporation made a deal with the Humble Oil & Refining Company, whereby the Humble acquired a 50 per cent. interest in the leases held by the Valley. The Humble later acquired an additional interest, making the new arrangement 75 per cent. for the Humble and 25 per cent. for the Valley; and that is the present basis of ownership in the field; with the Humble doing the actual drilling. Harry Pennington retains an interest in the field through the Valley Oil Corporation, participating in the profits of that concern.

The original block which Mr. Pennington leased has been enlarged upon greatly by the joint Humble-Valley interests, making their total present holdings approximately 45,000 acres. All of the drilling in the field has been done by the Humble-Valley interests.

Reverting to the geology of the Raccoon Bend field, W. F. Bowman and J.



A gasser in the Raccoon Bend field

M. Vetter, consulting geologists of Houston, including the following observations on it in a paper delivered at the February, 1929, meeting of the American Institute of Mining and Metallurgical Engineers:

"The finding of a new field at Raccoon Bend started a new play along the contact of the Lafayette, or Reynosa, formations with the underlying Fleming, or Lagarto clays. As this field was marked at the surface by an inlier of Lagarto clays protruding through the Lafayette sands, a search for similar conditions was started. In this field the oil is found in formations of Jackson age. While this is not entirely new, it points to further possibilities for potential reserves."

The above quotation is an excerpt from a paper entitled "Texas-Louisiana Gulf Coast Operations during 1928," a review of important developments during the year.

Concerning the test which is being drilled on the Young ranch by The Texas Company, it is very interesting from the standpoint of the joint interests operateing at Raccoon Bend. The Raccoon Bend leases go to the river from a point two or three miles west of the Gotosky lands, and the same bunch of leases includes over 10,000 acres on the east side of the river, to the north and south of the Young leases and between those leases and the river also.

Average Control

In the field as it has been developed up to now, the Humble-Valley interests hold virtually all the acreage. The only exception is a 260-acre lease of the Herman Grawunder land held by the Shell Petroleum Corporation; it is located about 1500 feet west of the productive Gotosky lease. The next nearest acreage is also held by the Shell, a 121-acre lease located nearly a mile north of the most northerly of Humble-Valley's 1000-foot gas wells.

The Humble-Valley interests recently purchased several additional big rigs for the field, and with those already purchased, and two gasoline rigs, there are now 13 rigs owned by the joint operating account.

Among the tests which are drilling in the field are several at considerable distances outside of the present proven area. Ernest Grawunder 1-D, which began rigging up about February 20, is nearly a mile south of Gotosky and Grawunder wells, which are in the southern end of the present field. Ueckert 1 has just extended the 1000-foot gas production 3000 feet west; and Hardy 3, which also began rigging up about February 20, is north of Hardy 2, the most northerly deep test, and incidentally a recently completed producer, making 300 barrels at 3256 feet. From Hardy 2, the most northerly well now to the Gotosky wells, the most southerly, is about 10,000 feet, or nearly two miles; and in an east-west direction, there is a distance of 13,000 feet, or approximately two and one-half miles, between edge wells in the 1000-foot gas sand; that is, between the Ueckert 1 on the west side of the field and the Roy Thompson 2 on the east. Thompson 2 is practically the same depth as Ueckert 1. Whereas Ueckert 1 was just recently completed as a 5,000,000-foot gasser at 1001 feet, the Thompson 2 came in for 35 barrels of 17.5 gravity oil together with a lot of gas at 1007 feet. Thompson 2, incidentally, was the first oil well of the field.

It would be inconceivable that such a sand as that i n the Gotosky and Grawunder, or Bracey, Beal, Hardy and Walton wells could pinch out before extending three or four locations outside of those skirting wells; and in the event that such extensions will be made, the field will cover from 5000 to 6000 acres, along the line of reasoning above.

To fully develop the 1000-foot gas sand, making one well to each 40 acres, something like 75 wells will be required for that sand; to fully develop the 3300-foot sand, with one well to each 10 acres, 300 more wells; to fully develop the 2330-foot sand, one well to each 20 acres, or 150 more wells. And as pointed out above, there is a chance of there proving to be two oil sands of the so-called 3350-foot sand, in view of the difference between the grades of oil from the Beal and Bracey wells and the Gotosky and Grawunder.

42 Tests Drilled

Up to now Humble Oil & Refining Company has completed 42 tests at Raccoon Bend, including 30 shallow tests and 12 deep ones. Among the 30 shallow ones, 10 were finished as producers, making gas and in several cases some oil. Nine out of the 12 deep tests were finished as oil producers, the production being from around 3350 feet. Among the tests that are now drilling, some are to be deep and others shallow.

At about the same time that the above mentioned Ueckert 1 extended the 1000-foot gas sand to the west, an important extension of the 3350-foot oil producing sand was made in the south part of the field when A. Grawunder C-1 encountered the pay at 3388 feet. It is 2200 feet east and 500 feet north of Grawunder B-1, the nearest well. It was expected to make a pumper at that depth.

As this is being written there are, exclusive of A. Grawunder C-1, seven wells at Raccoon Bend producing oil from the 3350-foot level, as follows: Hardy 2, Beal 1, Walton 2, Bracey A-1 in the north end of the field, and Gotosky 3 and Grawunder B-1 in the south end. Gotosky 2, the discovery well, is no longer producing. The seven wells have a combined production of around 2500 barrels, all but two of them making pipe line oil. The production of the individual wells varies from about 100 barrels for Bracey A-1, one of the older wells, to around 600 barrels for Walton 2, one of the newer wells. Initial production of the wells has varied considerably. The discovery well was rated for 500 barrels, and an offset to it, Gotosky 3, came in flowing 4000 barrels per day on a one and one-quarter-inch choke. Grawunder B-1 came in for 800 barrels on a half-inch choke. In the north end of the field, Bracey A-1 came in for 725 barrels at 3330 feet; Bracey B-1 for 1200 barrels on a half-inch choke; and J. C. Walton 2 for 300 barrels.

Following is the amount of oil, in barrels, that the fiild has produced:

1927	1,250
1928	99,050
January, 1929	53,200
February, 1929	58,650
Total	212,150

Pipe Lines

The crude is moved out by Humble Pipe Line Company through an eight-inch line leading to the Satsuma station north of Houston on a trunk line of the Humble, a distance of about 30 miles; and the posted prices of Raccoon Bend crude are the same as for other Gulf Coast oils. The line to Satsuma station was put in operation about December 1, 1928.

In addition to the oil line, there is a six-inch natural gas line leading out of the field. It extends to Brenham, a distance of about 25 miles, and supplies domestic and industrial consumers there. That gas line to Brenham is owned by the M. and M. Gas Company, which has distributing lines at Brenham, and which has contracted with the Humble and allied companies for gas from the field. The line was put in operation about March 1. In addition the M. and M. Company is building a natural gas line to Hempstead, nine miles east of Raccoon Bend, to supply domestic consumers in that town.

In its drilling operations, the Humble Oil and Refining Company has standardized on all its equipment. Everything is interchangeable; that is, in the case of the 11 big rigs. Through this arrangement considerable economies are effected.

This standardized equipment includes Wilson Snyder 6x16 pumps; Baash-Ross crown blocks; Boykin 72-inch traveling blocks; 23-inch Boykin rotaries; Emsco and International 122-foot steel derricks: six-inch swivels; boilers meeting A. P. I. specifications, and consisting principally of Broderick and the Donovan boilers; and No. 5 3BC Union Tool Works draw works.

Besides the field office and warehouse, the Humble has a complete machine shop in the field; a 100-man camp, and 15 dwelling houses for its employees.

Raccoon Bend is approximately midway between the towns of Bellville and Hempstead, being about nine miles from each, alongside the highway connecting the two towns. It is only about a mile and a half west of the Brazos River, which makes a sharp bend near the field. That bend, along which raccoons have been particularly numerous, was responsible for the name of the field.

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Read Before the California Natural Gasoline Association, Feb. 14, 1929

Modern Gas Trap Installation

By C. C. TAYLOR
Assistant Gas Superintendent, Southern Division, Union Oil Company of California

WITH the arrival of scientific methods into the realm of oil production the development of the oil and gas separator and its set up has not been neglected. Recent studies of the effect of back pressure on wells, the advent of gas lift with its large quantities of gas and relatively small volume of oil, the occurence of large oil and gas producers in localities where natural gasoline is of extreme value and the phenomenal growth of the natural gas and gasoline industry are factors that have contributed greatly to this development.

In general, the trend in gas trap construction has been towards a decrease in the amount of baffling within the trap, and larger gas and oil inlets and outlets, all of which effect the minimum pressure drop, that is so important in single trap installations and in the final separation with complex trap arrangements.

The capacity of a gas trap is governed within certain limits by the amount of gas rather than the amount of oil to be handled. However, as the density of the gas increases with pressure, the allowable velocity is reduced accordingly. A 42-inch trap at atmospheric pressure will handle, with a reasonable amount of oil, approximately 3500 M cubic feet of gas per 24 hours, while at 300 pounds pressure it will handle only 15,000 M cubic feet. If velocity alone were the controlling factor the trap should handle 75,000 M cubic feet of gas. This is accounted for by the fact that in raising the pressure from atmospheric to 300 pounds the proportional densities of the oil and gas change from about 880/1 to 41/1. Obviously a spray of oil should drop out of an ascending current of gas weighing .07 pounds per cubic foot much quicker than from gas weighing 1.47 pounds per cubic foot.

The ordinary single trap installation, as shown in Plate I, is used for small wells and wells requiring the lowest possible tubing pressure. It is usually mounted on a platform attached to the corner of the well derrick or on a separate derrick near the wells, and in either case is elevated sufficiently to allow the oil to gravitate to the tanks, thus preventing unnecessary back pressure on the well, also loss of tank vapors. An overhead connection with bends is installed between the tubing and the trap so as to eliminate all possible pressure drop at that point. The trap is equipped with an oil and gas control valve or valves so as to automatically exert enough pressure on the trap to take care of any heading of the well which might overload the oil line to the tanks and fill the trap with oil. The gas of course, goes to the low pressure gathering system.

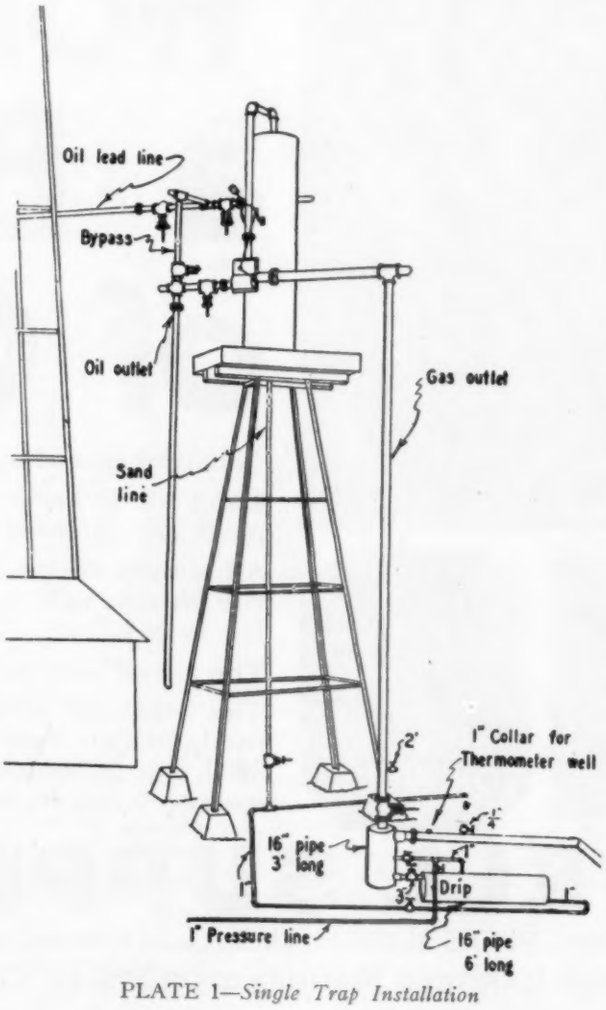

PLATE 1—*Single Trap Installation*

With the bringing in of so many high pressure wells with their large volumes of oil and gas it has been found advantageous to develop an installation that would handle the oil in series so that well pressures could be taken advantage of to the fullest extent.

Double Trap

Plate II shows a typical double trap installation operating on several Nordstrom or Buckbee sand wells at Santa Fe Springs. On some of the largest of these wells two high pressure traps in parallel are used instead of one. The oil and gas comes from the well, which is beaned back to 300 pounds or better, and flows to the primary trap which is held at 300 pounds pressure. The high pressure gas from this trap is metered and piped to the high pressure system from which it is used for circulating low pressure wells, repressuring depleted sands or treated in a high pressure absorption plant. The oil from the primary or high pressure trap, together with the gas that is dissolved in or entrained with the oil, at that pressure, flows to the secondary trap where the final separation is made under atmospheric conditions. The oil gravities to the tanks and the gas is metered and discharged into the low pressure gathering system.

As the tubing pressure at the well decreases the primary trap pressure must be lowered accordingly. It is dropped to the next pressure at which it can be advantageously used except when it is held as high as possible, in order to obtain the greatest capacity or most efficient separation. In that case, the desired pressure is held by means of a back pressure regulator on the outgoing gas line.

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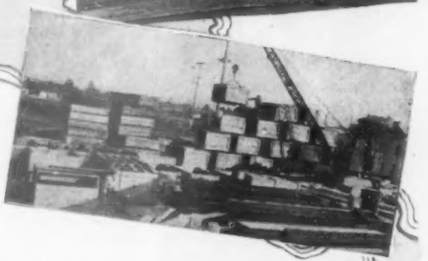

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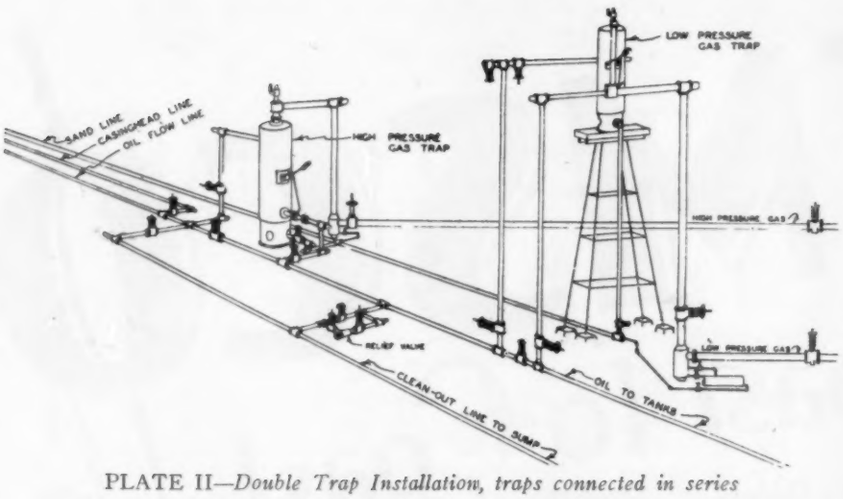


PLATE II—*Double Trap Installation, traps connected in series*

be over-emphasized. A few pounds of extra pressure drop through the flow lines may necessitate lowering the primary trap pressure before it would otherwise be required. Insufficient capacity of the oil line to the tanks will automatically raise the secondary trap pressure with the resultant loss of light fractions from the tanks.

Plate 3 plainly iillustrates the importance of atmospheric separation of oil and gas in both the single trap installation and the final separation, where two or more traps are used in series. Without this low pressure in the trap, valuable light fractions are held in the oil and escape as tank vapors upon reaching the tank and atmospheric conditions. This also constitutes a fire hazard.

The curve shown was made up from data obtained from nine wells in the Brea district when trap pressures were lowered. The wells are all operated by "gas-lift" and each was equipped with a single elevated trap. As tubing pressures were affected by the lowering of trap pressure, some of the increase was undoubtedly due to the actual lowering of back pressure against the sand and the production of light hydrocarbons that would not otherwise be obtained. It will be noted that the largest increase was accomplished in decreasing the pressure from about 10 to atmospheric.

In order to obtain the tabulated data on Plate 3, the secondary trap pressures on five of the new wells at Santa Fe Springs, were lowered as much as possible and increases in gas and gasoline measured. An increase in gas of from 300 M cubic feet to 500 M cubic feet is in itself not to be overlooked. Additional gasoline production per well of from two to six thousand gallons per day is an item of considerable value. A further decrease in pressure to atmospheric, would be expected to increase the total yield 1500 to 2000 gallons per well.

Plate IV is a tabulation of oil and gas volumes, gasoline contents and trap pressures, etc., from double trap installations operating on several deep sand wells at Santa Fe Springs. The gas from each trap was measured and gasoline content determined by charcoal process. A difference in the emulsion cut of the oil, slight surging of any of the wells, temporary trap inefficiencies, and the original source of the gas being produced with the oil might account for some of the apparent discrepancies in the amounts of gas and gasoline taken from each trap. An accurate analysis of all the hydrocarbons from each well with a study of their partial pressures at each stage of the operation would shed much light on the subject.

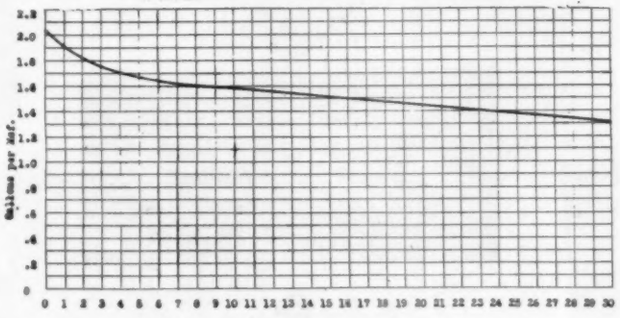
The amount of gas remaining in the oil as it leaves the high pressure traps ranges from 135 to 175 cubic feet per barrel of oil, for the 200 pound traps, and from 243 to 387 cubic feet per barrel of oil from the 300 pound traps. The light gravity oil with its high gasoline content seems to be an excellent absorbent medium. However, some of this gas may be entrained or carried through mechanically, that is, it would separate from the oil at the same pressure if the mixture was less violently agitated.

The gasoline content of the gas from the primary trap varies of course with the gas-oil ratio; the higher the ratio the lower the yield per million cubic feet but the greater the total volume of gasoline produced.

The cost of trap installations is materially reduced by resorting to the "series" hookup. A well making 12,000 or 14,000 million cubic feet of gas per day and 5000 barrels of oil, if the traps are operated in parallel at atmospheric pressure, would require four traps at a cost of approximately $8000. Two traps operating in series would be ample and require an expenditure of only $5000.

The greatest economic benefit derived from the operation of traps in series is the saving of compression by taking advantage of the natural pressure of the well as it is conserved by the flow bean. It has already been shown that, for conservation purposes, final low pressure separation of the gas from the oil should be made before it reaches the tanks. But, to compress the bulk of the larger volumes of gas, such as are usually produced during the flush period of any new field or new sand development, from atmosphere or under to whatever pressure necessary for treatment and final disposition, is as surely an example of economic waste as many of the other field problems that are being given constant investigation and study.

CURVE SHOWING THE AVERAGE DECREASE IN GASOLINE CONTENT IN GAS DUE TO INCREASED TRAP PRESSURE ON NINE WELLS IN THE BREA DISTRICT



Trap Pressure in Pounds per Square Inch Gauge

EFFECT OF DECREASING SECONDARY TRAP PRESSURES ON FIVE NEW WELLS AT SANTA FE SPRINGS

Well No.	Trap Pressure Lb.	Gas Prod. Mcf/24 hrs.	Yield per Mcf.	Total Gaso. Production	Total Increase in Gasoline Prod.
1	38	919	3.44	3165	
1	16	1253	4.99	6250	3085
2	43	1076	3.51	3779	
2	16	1578	6.23	9826	6047
3	38	876	3.77	3303	
3	8	1157	5.79	6701	3398
4	38	1527	3.21	4900	
4	14	1977	4.70	9296	4396
5	30	600	4.60	2760	
5	12	800	6.00	4800	2040

PLATE III

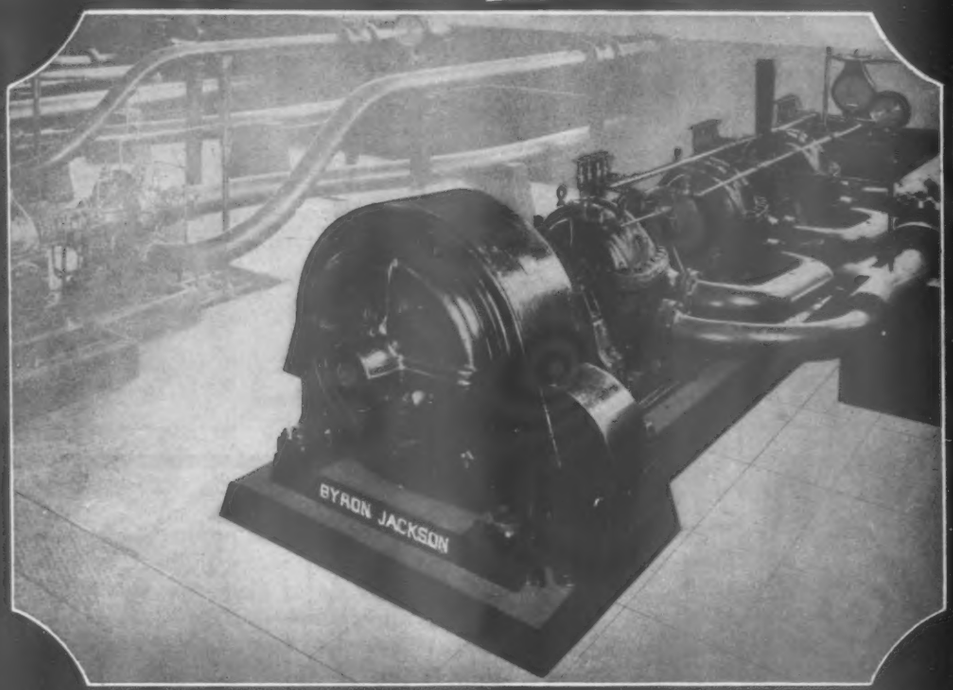
Cost of Compression

Using 15 cents per horsepower day as an example, the cost of compressing gas from 10 inches of vacuum (this is the usual actual compressor intake necessary to maintain atmospheric pressure on the traps) to 30 pounds, is $14.00 per 1000 million cubic feet. From 30 pounds to 150 pounds the cost would be $12.70 per 1000 million cubic feet and from 150 pounds to 300 pounds $6.30 per 1000 million cubic feet. Using these values the feasibility of double trapping for any certain set of conditions can readily be determined.

At Santa Fe Springs, we have an unusual production problem. Many wells in the Foix, Meyer and Bell zones are being produced by gas lift, others may be used for injection purposes, their sands being used as a stor-

(Continued on page 78)

High Pressure Centrifugal Pumping



Oil companies have found many advantages in the use of Byron Jackson centrifugal pumps for pipe line pumping. Among the most important is automatic control of long pipe lines from the initial station, booster stations being completely automatic. This is only possible with centrifugals. Byron Jackson line pumps have been tested in the field and their superiority proven.

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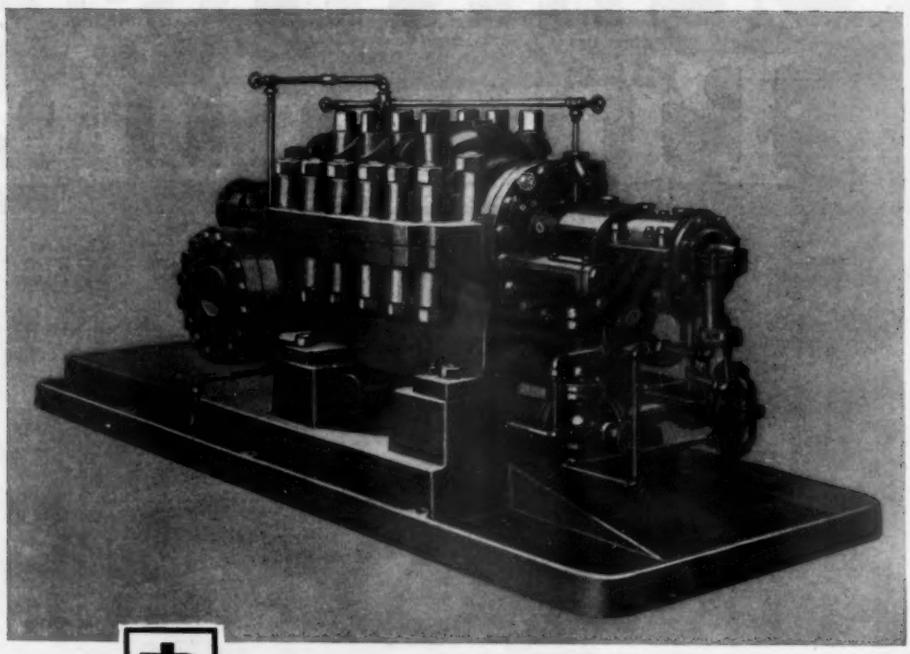

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Say you saw it in The OIL WEEKLY

Scene along Empire Pipe Line to Oklahoma City field

Oklahoma City Crude in Demand For Its Quality

Active drilling campaign in progress despite great production depth and general market conditions

By WARREN BAKER
Staff Representative

TULSA.—The Oklahoma City field is scheduled to be the next new pool of importance to be developed in Oklahoma. Drilling is making better progress than expected and the latter part of April may see the completion of a well or two, with several following during May. Drilling wells are not spending the time coring the upper formations.

Discovery of this new producing region was the sensational wildcat strike of 1928. Because of the little knowledge procurable it is difficult to foretell the possibilities of the district. There is only one producing well and the top of a number of important formations, as shown by its log, are questioned. The drilling wells are not deep enough for accurate correlations, and again there is a difference in calling the top of the formations.

The well is located on one of the largest surface structures in Oklahoma. The structure was discovered in 1917 by Jerry Newby, a geologist employed by the Oklahoma City Chamber of Commerce, in making up a survey of the Oklahoma City area. The structure was shown to run northwest by southeast through the east side of the city. In 1921 and 1922, a large structure six miles southeast of the city was found by L. E. Trout; this is the present Indian Territory structure. Trout interested others in drilling a test. This test was abandoned at 4480 feet after having several good showings.

Prospects of the pool were dimmed during the past couple of weeks by the performance of the discovery producer, Indian Territory Illuminating Oil-Foster Petroleum Company's Fee 1, C SE SE Section 24-11-3w. The well had shown remarkable stability in producing close to a half million barrels of crude in three months, but suddenly showed a large loss in pressure with the result that its production dropped quickly. Cleaning out and agitation failed to revive the flow and it was placed on air pressure. On air it produced a little more than 1000 barrels the first six hours. There was some debate among Indian Territory Illuminating Oil Company officials whether to deepen it or not, but since deepening would only test out the lower formations, as it is already beneath the pay stratum, it was decided to place it on air pressure. Some water was soon in making its appearance. This will be closely watched.

There has been much controversy as to the producing formation. Some contended that it was the Hunton lime, others that it was the Simpson or siliceous lime. It is generally thought that it is the siliceous lime. This belief was further strengthened by its recent performance, as lime wells are generally short lived and often accompanied by water.

If in the Siliceous it means that the Sylvan shale, Viola lime, Simpson and Wilcox sands were not present. It is possible that the formations rose so high on the structure as to pinch these out, like those at Garber. The pool may not play the important part that Garber played a few years ago, however, since it is lacking in the prolific shallow sand production. It may be that the flank of the structure will yield Wilcox sand production, as did Garber, in which case it would probably be important.

Crude Has Good Lube Content

A distillation analysis of the crude shows that it is of paraffin base, similar to that produced in many of the fields in Pennsylvania and Eastern States. Demand is already increasing

for the oil. Humble Oil & Refining Company is taking the crude to its refinery at Baytown, on the Houston Ship Channel, on account of its lubricating value. A number of other Mid-Continent refineries are known to be anxious to secure some of this new oil.

The Bureau of Mines petroleum experiment station at Bartlesville, analysis of a sample of crude from the discovery well showed the following characteristics:

Specific gravity 0.837
A. P. I. gravity 37.6
Per cent. sulphur 0.16
Pour point 10° F.
Saybolt Universal Viscosity 70° F. 57 sec.
Saybolt Universal viscosity at 100° F. 46 sec.
Color, Green.

An approximate summary of the distillation of this sample by the Bureau of Mines, Hempel method, gave the following results:

	Per Cent.	Sp. Grav.	A.P.I.	
Light Gasoline (end point 220° F.)	6.7	0.688	74.2	
Total Gasoline and Naphtha	26.1	0.737	60.5	
Kerosene distillate	16.8	0.810	43.2	
Gas Oil	10.0	0.834	38.2	
Non-viscous lubricating distillate	12.0	0.842-0.866	36.6-31.9	50-100
Medium lubricating distillate	6.7	0.866-0.876	31.9-30.0	100-200
Viscous lubricating distillate	0.0	... ...		above 200
Residuum	24.4	0.924	21.6	
Distillation loss	4.0			

Much Drilling in Area

Despite the great depth of the producer and the general overproduction, there are 23 tests drilling, four are waiting on surface casing to set, and three are building rigs in the district. Five of the drilling wells are deep enough to have encountered the Tonkawa horizon, and two are in the Layton. A number of other tests are just above the Tonkawa formation, with a few just above the Layton.

The Tonkawa is found from about 3950-4200 feet. While it is necessary to base present correlations on the Tonkawa, it is not considered a reliable marker. The depth to the pay stratum is too great, and there is much question as to the top of the Tonkawa in many tests. There are two sands in the Tonkawa series, and some call the first one the top of the Tonkawa, while others call the second one the top.

The deepest drilling test is the Indian Territory Illuminating Oil and Foster Petroleum Company's Trosper Park 1, C NE SW Section 13-11-3w, 1½ miles north and slightly west of the discovery producer. It has passed through the Tonkawa and encountered the Layton at 4746 feet. Correlations show that it is running slightly higher than the discovery well on this formation. Other figures show it to be running practically flat with the producer. This test has had several showings of both oil and gas in cores taken in the Tonkawa and Layton series.

Possibilities of shallow production in commercial quantities were strengthened by the showing of this test in the upper part of the Tonkawa. It was good for about 200 barrels per day, and if properly cleaned out might have made better. However, there has been no real important find in the upper sands, but it is thought that the possibility is good as indicated by the many showings.

This well at present is in the Layton, where it is likely to be completed as a gas well to provide fuel for Indian Territory Illuminating Oil-Foster Petroleum Company's drilling operations.

Indian Territory Illuminating Oil-Foster Petroleum Company's Foster 1, C NE SW Section 24-11-3w, three-quarters of a mile northwest of the discovery producer, found the Tonkawa from 3973-4200 feet, according to most reports, where it is slightly lower than the discovery producer. It did not show very well in the Tonkawa.

Mid-Kansas Oil & Gas Company's Forston 1, C SW NE Section 24-11-3w, a half mile north of the producer, found the top of the Tonkawa at 3969 feet. Several good showings of oil and gas showed up in the core It is running higher than the discovery well.

Coline Oil Company's Olds 1, C SE NW Section 24-11-3w, a quarter of a mile west and a half mile north of the discovery well, had the Tonkawa from 3980-4183 feet. It is running about level with the producer.

These wells to the north that are running higher would indicate that the main part of the producing area may be expected to extend in that direction. Most of the drilling is being done there.

One-half mile to the east, T. B. Slick, Inc.'s Hiddleston 1, SW SW SE Section 19-11-2w, probaby topped the Tonkawa at 4102 feet, where it is slightly lower than the producer. This well sits on a topographic high.

T. B. Slick, Inc., and Phillips Petroleum Company's Sudik 1, C NE NE Section 8-10-2w, three miles south and one and one-quarter miles east of the discovery test, is in the Layton at 5190-5241 feet. It is running several hundred feet lower than the producer, but stands a chance of finding production in the Wilcox sand, it is thought. The test is important in that it may possibly tell whether production is to be found far down on the flank of the structure in some of the formations.

These six wells are the only wells in the immediate area to penetrate the Tonkawa or Layton sands. When they reach the Mississippi lime around 6000 feet

(Continued on page 76)

Drilling Crews on Deep Well at Oklahoma City

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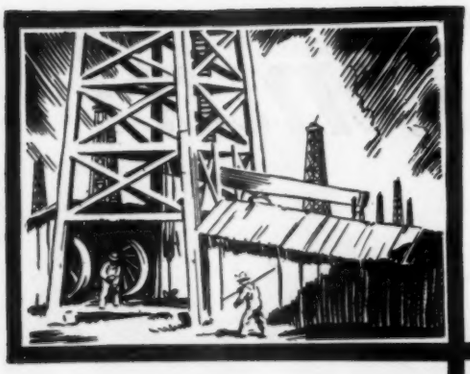

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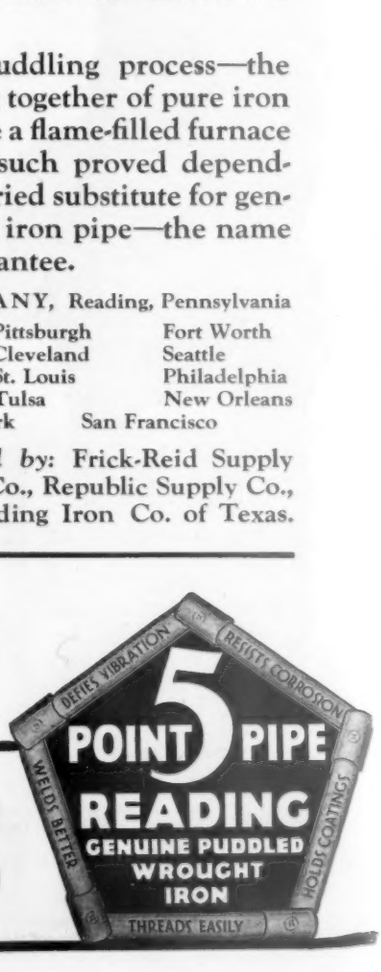

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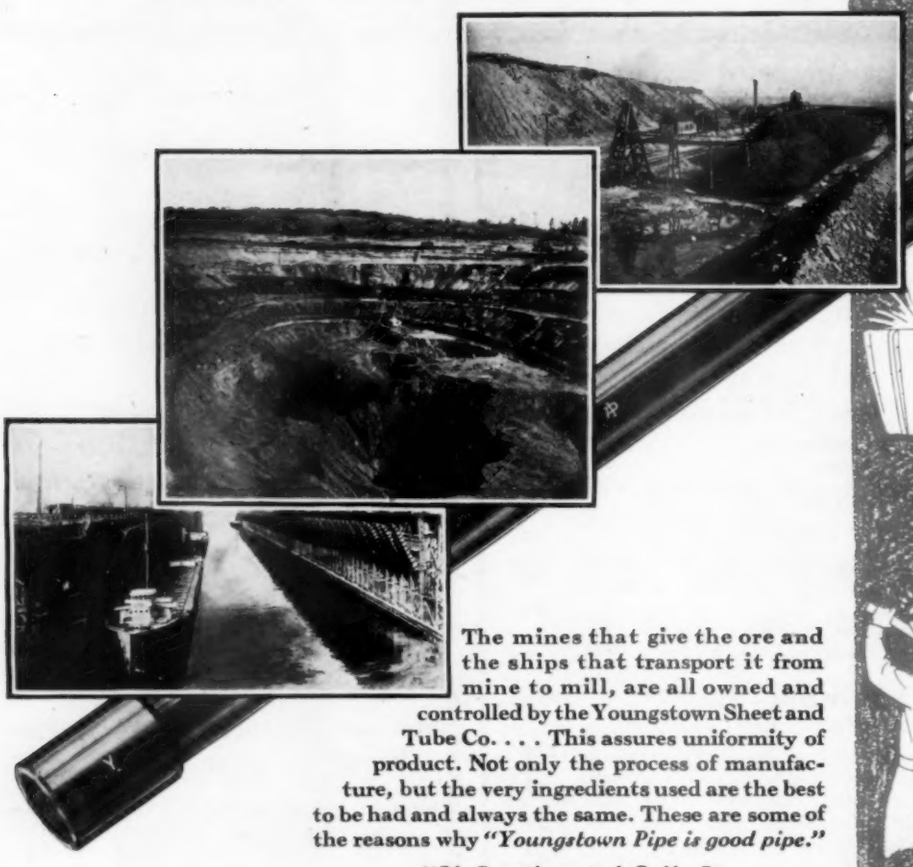

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CONTINENTAL

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Sunday Shut-Down Effects Production Decline

UNITED States production last week dropped 36,950 barrels through the influence of Oklahoma's decline of 32,750 brought about by substantial producers in Seminole closing in their wells on Sunday, and a decrease of 6500 barrels in California. Texas, in the meantime, was increasing its output 7850 barrels. The idea of the Sunday shutdown is growing in Oklahoma and its success last Sunday should have even greater influence on the next weekly report.

Although the second two-week proration period resulted in a further curtailment of crude recovery in the state, Oklahoma's output is exceeding the estimated consumption of 650,000 barrels daily by approximately 50,000 barrels. Oklahoma operators are curtailing about 75,000 barrels per day.

The bright spot in the Oklahoma situation is that Mission and Maud fields apparently have seen their best days. As long as Maud's production is confined to the Hunton and Misener formations it will not be a disturbing market factor. The drop in Maud production is not due entirely to proration but to natural decline.

Mission field is eliminated as a potential major pool. Its recovery has slumped sharply after reaching a peak of 49,000 barrels when approximately 70 wells were completed in a week. There are 33 drilling tests in the district, which started up after the lid was lifted. No new flush production can be expected until these are completed about the middle of May. The possibility of the gas-lift raising Mission's production back to around 50,000 barrels still remains, but it is doubtful.

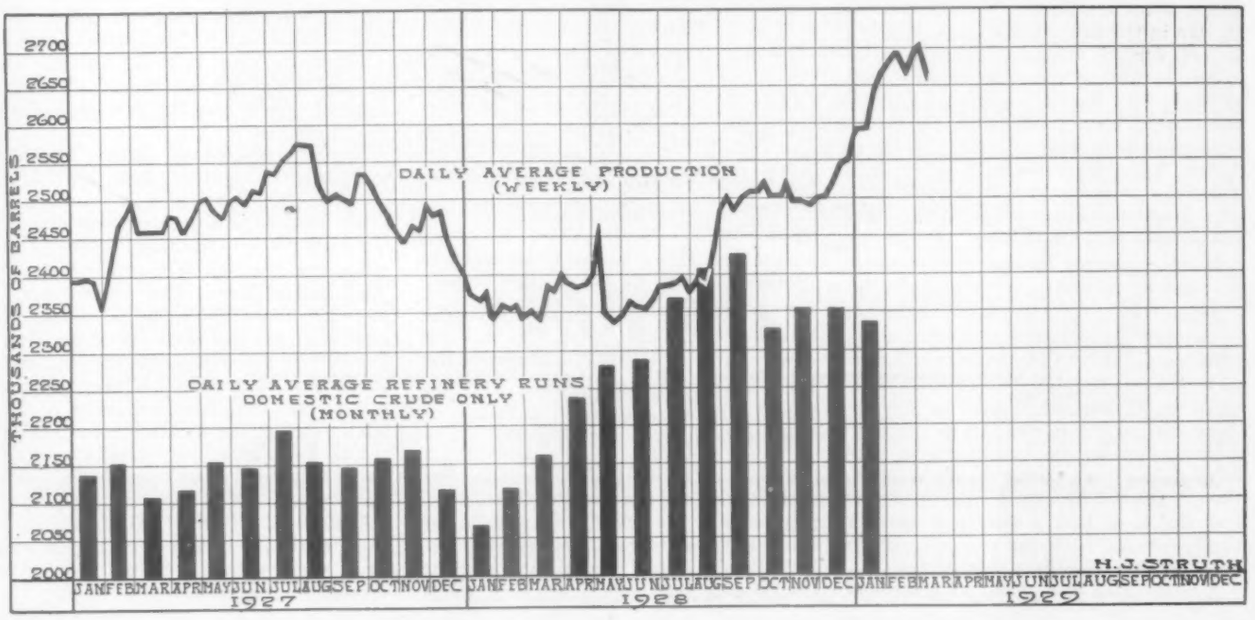
Opinion is divided concerning the Oklahoma City field. The intrusion of water and loss of production due to a decline in pressure on the discovery well is perplexing. Its performance during the past week caused a material reduction to be made in its possible potential output.

Sinclair Purchases Kerosene

Sinclair Refining Company has purchased a million gallons of 41-43 and 42-44 water white kerosene in Oklahoma and Kansas. This caused a material strengthening of the spot prices for this product. Refiners are quoting 5¾ to 6 cents a gallon for 41-43 and from 6¼ to 6½ cents for 42-44 grade. They are optimistic for the future prospects of burning oils with the time approaching for farmers to commence spring plowing.

Although export demand for gasoline is still lacking in Group 3, the markets are holding strong and are expected to strengthen. The spring weather of the past week has been a big boost. The

DOMESTIC PRODUCTION AND REFINERY RUNS



DETAILS OF CRITICAL FIELDS

Pool	Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
WEST TEXAS—								
Hendrick	546	2,930,705	5,368	557	175,115	314[1]	11	28
Church & Fields	189	203,465	1,077	187	27,445	147	.	.
Gulf-McElroy	71	56,345	794	71	12,960	183	1	2
Yates	298	1,978,215	6,678	296	86,290	292[1]	3	8
Total	1,104	5,168,730	4,682	1,111	301,810	272	15	38
TEXAS PANHANDLE—								
Hutchinson Co.	1,149	549,875	479	1,023	26,260	26	2	20
Gray County	332	136,500	411	322	21,445	67	7	42
Carson County	185	60,535	327	161	5,955	37	1	17
Wheeler County	44	14,645	333	35	510	15	4	16
Moore County	11	6,145	559	9	1,475	164	3	10
Totals	1,721	767,700	446	1,550	55,645	36	17	105
OKLAHOMA—								
Seminole	1,771	2,249,192	1,392	1,449	282,162[2]	194	32	203
St. Louis	383	383,337	1,000	314	99,124[2]	315	9	72
CALIFORNIA—								
Santa Fe Springs[3]	135	442,900	3,270	112	165,000	1,473	31	174

[1]Production partially pinched.
[2]Prorated.
[3]Deep production only. For field total add 223 wells and 24,000 bbls.

posted market for Group 3 U. S. Motor remained unchanged at 6¾ to 7 cents per gallon, with 60-62, 400 end point, bringing 7¼ to 7½ cents. Oklahoma refiners report a steady increasing demand for gasolines.

California

Failure to halt the development of the Buckbee zone at Santa Fe Springs has nettled leading California producers and a more concerted effort is being made to check further operations in known zones below the Buckbee. Operators threw caution to the winds when it was seen that little could be done to limit drilling in the Buckbee zone. The larger producers were supposedly in accord with curtailment plans, but when the little fellow refused to join in the proration, they gave them a run for his money by developing the zone with all possible haste. With at least two more zones lying below the Buckbee, a fresh move is under way to stop drilling of wells below the zone. This plan undoubtedly would solve the situation at Santa Fe Springs and would bring the field total to 100,000 barrels in a short time. The Buckbee zone can not do much more damage, and a decline is expected from the present peak.

Various conservation committees are working to bring California production down to around 600,000 barrels. This could be accomplished only by eliminating Santa Fe Springs from further drilling and by further reducing production in areas which are already partially shut in. This figure seems too low and it is very doubtful if enough can be pruned from the present total to reach such a level in a few months.

A committee composed of attorneys and operators are working on a bill which would drastically reduce the production of natural gas in California. The bill would be sweeping enough to reduce oil production in critical areas where gas wastage is practiced. The bill is a round-about way of striking at over-production.

California production continues to hover around 800,000 barrels, but some relief is in sight. Santa Fe Springs holds the key to the situation, but the state total will fall sharply before deeper zones may be developed. In the event these zones are developed, a still greater production may follow the temporary slump. This depends chiefly on the productiveness of the lower zones.

No improvement has been noted in either the wholesale or retail gasoline situation. Service station prices range from 10 to 12½ cents, with the average price running around 11 cents. It is impossible to average the tank wagon prices quoted by the large marketing companies. They range from eight to 12½ cents. California gasoline is finding its way in slightly increased quantities to the Eastern Coast, although the export price of the commodity has not been lowered in accordance with the local market. Natural gasoline is slightly weaker.

Beaumont, Texas. — Coastwise water shipments of the Sun Oil Company from its Gulf Coast terminals at Sun and Sabine Pass during February amounted to 689,111 barrels.

Two Pipe Lines Planned For Salt Lake Field

Houston.—Preliminary work is being done by two companies, Shell Pipe Line Company and Humble Pipe Line Company, toward construction of pipe lines to provide outlets for production in the Salt Flat field, Caldwell County, the newest major field along the Balcones fault. Its output is around 30,000 barrels daily, with only one trunk line system connected with the field, that of the Magnolia Pipe Line Company.

Humble Pipe Line Company, subsidiary of the Humble Oil & Refining Company, one of the largest producers at Salt Flat, has plans for an eight-inch line which will connect up with Humble's system at West Columbia, a distance of about 125 miles.

Shell Pipe Line Company is leasing right-of-way for a line, probably an eight-inch, to connect with its line that is now being built from West Texas to the Houston Ship Channel; the plan being to effect the junction near Austin. The line, as proposed, will run east of Lockhart and pass near Lytton Springs field. Possibly a short line will be laid to Cedar Creek field, Bastrop County, from Lytton Springs. From Salt Flat to the Shell line out of West Texas is a distance of approximately 37 miles. Shell Petroleum Corporation, which is affiliated with Shell Pipe Line Company, is now the largest producer at Salt Flat.

American Petroleum Institute estimate of the production at Salt Flat during the week ending March 9 was 28,400 barrels per day, as compared with 28,650 barrels the previous week, the highest mark reached by the field since it was opened last fall.

Total pipe line runs from Salt Flat aggregated 671,360 barrels during February; an average per day of 23,977 barrels.

It is interesting to note that nearly the entire output of the field was marketed by tank cars; Magnolia Petroleum Company's runs constituting the only exception. The oil that that concern handled went to its tank farm at Luling. The Magnolia Petroleum Company, however, handled only about 2½ per cent. of the production.

Capps et al's New 1, located 7000 feet north of the most northerly production at Salt Flat, and which is consequently being watched with interest, was reported Tuesday to be standing, after having made one head of 35 barrels. It topped the Edwards lime, from which most of the Salt Flat production is coming, at 2745 feet, and has been drilled to 2749½ feet. From this well to the most southerly production of the field is approximately six miles. The first few wells at Salt Flat were at the extreme south end of the field, the subsequent development and extensions having all been to the northeast.

Cranfill & Reynolds' Northcutt 1 last week made 180 barrels per day for three days, and was later reported to have increased in production.

This pump has come to be looked upon as a Super Field Pump by some of the largest producing and pipe line companies in the field. Its rugged construction, its larger capacity of 80 to 120 bbls. per hour, and its higher working pressure of 400 to 650 lbs., overcome many of the limitations of the ordinary field pump. Oftentimes it is used to pump producer's oil direct into the main lines.

Agents
FRICK-REID SUPPLY CORPORATION
Tulsa, Okla., or any store.

REPUBLIC SUPPLY COMPANY
of California
Los Angeles, California

E. L. WILSON HARDWARE CO.
Beaumont, Texas.

PUMPS TRANSIT ENGINES

NATIONAL TRANSIT PUMP & MACHINE CO. Oil City, Pa.

DISTRICT OFFICES

NEW YORK PHILADELPHIA PITTSBURGH
CLEVELAND HOUSTON TULSA LOS ANGELES

Agents
F. C. RICHMOND MACHINERY CO.
Salt Lake City, Utah.

REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

This winter
. . . YOUR CAR CAN HAVE THIS AIRCRAFT GASOLINE

Starts **COLD ENGINES** *fast* . . . . . .

THIS winter, automobile engines will be just as cold as they were last winter—but no longer need they be stubborn in starting—no longer need they strain starters, drain batteries and pain nerves—no longer need they sputter and stutter when the North Wind grips your engine.

This winter, Sinclair Aircraft Gasoline has come to the aid of winter driving! The same gasoline qualities that send airplanes zooming into the air and riding smoothly through the cold skies are now available to you for your *car*—to make your winter motoring a real pleasure!

Try the remarkable Aircraft Gasoline that starts cold engines fast . . . that greatly reduces the use of the choke . . . that eliminates engine balk, and eliminates gas locks, preventing jerky operation. It decreases the dilution of the motor oil in your crankcase. It is guaranteed to meet Army, Navy, and Bureau of Mines Specifications for Aviation Gasoline, domestic grade. You can fill up with Sinclair Aircraft Gasoline wherever you see the Sinclair Pump with the Aircraft Globe.

Try it today and really enjoy winter driving.

SINCLAIR REFINING COMPANY, INC., 45 NASSAU STREET, NEW YORK
ATLANTA BOSTON CHICAGO HOUSTON KANSAS CITY

SINCLAIR AIRCRAFT GASOLINE

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The ACE of HIGH TEST GASOLINES

Say you saw it in The OIL WEEKLY

CRUDE OIL PRICE QUOTATIONS

Revised March 12, 1929

CURRENT POSTINGS

Effective March 12, Joseph Seep Purchasing Agency announced reduction of 10 cents per barrel on Cabel (West Virginia) and Sumerset (Kentucky) crudes.

EASTERN STATES

(Effective March 12, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$4.10
Brandford District Oil in National Transit Lines (Pennsylvania)	4.10
Penna Grade Oil in National Transit Lines (Pennsylvania)	4.00
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	4.00
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.90
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.85
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.35
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.75
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.50
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	.60
Keister (Pennsylvania)	1.20

CENTRAL STATES

(Effective January 25, 1929)

Posted by Ohio Oil Co.

Illinois	1.45
Indiana	1.27
Lima	1.50
Plymouth	1.18
Princeton	1.45
Waterloo	1.25
Wooster	1.62

WESTERN KENTUCKY

(Effective January 25, 1929)

All grades	1.53

MID-CONTINENT

(Effective January 25, 1929)

Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.

25 to 25.9gravity	.66
26 to 26.9 gravity	.72
27 to 27.9 gravity	.78
28 to 28.9 gravity	.84
29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 to 37.9 gravity	1.23
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.29
40 to 40.9 gravity	1.32
41 to 41.9 gravity	1.35
42 to 42.9 gravity	1.38
43 to 43.9 gravity	1.41
44 and above	1.44

MID-CONTINENT

(Effective January 24, 1929)

Magnolia Petroleum Company

Under 26	.60
26 to 26.9 gravity	.65
27 to 27.9 gravity	.70
28 to 28.9 gravity	.75
29 to 29.9 gravity	.80
30 to 30.9 gravity	.90
31 to 31.9 gravity	1.00
32 to 32.9 gravity	1.08

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

PANHANDLE

(Effective January 24, 1929)

GRAY COUNTY

(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company and Sinclair Pipe Line Company).

Below 29 gravity	.69
29 to 29.9 gravity	.75
30 to 30.9 gravity	.81
31 to 31.9 gravity	.87
32 to 32.9 gravity	.93
33 to 33.9 gravity	.96
34 to 34.9 gravity	.99
35 to 35.9 gravity	1.02
36 to 36.9 gravity	1.05
37 to 37.9 gravity	1.08
38 to 38.9 gravity	1.11
39 to 39.9 gravity	1.14
40 to 40.9 gravity	1.17
41 to 41.9 gravity	1.41
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.51
44 and above	1.56

WHEELER COUNTY

(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.70
30 to 30.9 gravity	.76
31 to 31.9 gravity	.82
32 to 32.9 gravity	.88
33 to 33.9 gravity	.91
34 to 34.9 gravity	.94
35 to 35.9 gravity	.97
36 to 36.9 gravity	1.00
37 to 37.9 gravity	1.03
38 to 38.9 gravity	1.06
39 to 39.9 gravity	1.09
40 to 40.9 gravity	1.12
41 to 41.9 gravity	1.15
42 to 42.9 gravity	1.18
43 to 43.9 gravity	1.21
44 and above	1.24

CARSON-HUTCHINSON COUNTIES

(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.72
32 to 32.9 gravity	.78
33 to 33.9 gravity	.81
34 to 34.9 gravity	.84
35 to 35.9 gravity	.87
36 to 36.9 gravity	.90
37 to 37.9 gravity	.93
38 to 38.9 gravity	.96
39 to 39.9 gravity	.99
40 to 40.9 gravity	1.02
41 to 41.9 gravity	1.05
42 to 42.9 gravity	1.08
43 to 43.9 gravity	1.11
44 and above	1.14

WEST TEXAS

(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Pecos and Winkler Counties, all grades	.65

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties. The Marland Company posts only in Crane, Upton and Crockett Counties; Southern posts only in Crane, Upton and Winkler Counties.

CALIFORNIA CRUDE OIL PRICES AT THE WELL

(EFFECTIVE JANUARY 18, 1929)

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity	Ventura*	Signal Hill	Alamitos Heights-Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecraas Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$ .85	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ ..	$ .70	$ .70	$ .70	$ .70	$ .70	..	$ .50	$ .50	$ .50	$ .50	$ .50	$ .50
15-15.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
16-16.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
17-17.9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
18-18.9	.85	.75	.75	.75	.75	.75	..	..	.75	.75	.75	.70	.75	..	.50	.56	.56	.56	.56	.56
19-19.9	.85	.80	.80	.80	.80	.80	..	..	.80	.80	.80	.75	.80	..	.50	.62	.62	.62	.62	.62
20-20.9	.85	.85	.85	.85	.85	.85	..	..	.85	.85	.84	.80	.84	..	..	.68	.68	.68	.68	.68
21-21.9	.86	.89	.89	.89	.89	.89	..	..	.89	.89	.88	.85	.88	.89	..	.74	.74	.74	.74	.74
22-22.9	.87	.93	.93	.93	.93	.93	..	..	.93	.93	.91	.90	.91	.92	..	.80	.80	.80	.80	.80
23-23.9	.90	.97	.97	.97	.97	.97	..	..	.97	.97	..	.95	.94	.95	..	.85	.85	.85	.85	.85
24-24.9	.94	1.01	1.01	1.01	1.01	1.01	1.01	.94	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	.98	1.05	1.05	1.05	1.05	1.05	1.05	.98	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.02	1.09	1.09	1.09	1.09	1.09	1.09	1.02	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.06	1.13	1.13	1.13	1.13	1.13	1.13	1.06	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.10	1.17	1.17	1.17	1.17	1.17	1.17	1.10	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.14	1.21	1.21	1.21	..	1.21	1.21	1.14	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.18	1.25	1.25	1.25	..	1.25	1.25	1.18	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.23	1.30	1.30	1.30	..	..	1.30	1.23	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.9	1.28	1.35	1.35	1.35	..	..	1.35	1.28	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
33-33.9	..	..	..	..	..	..	1.41	1.34	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	..	1.47	1.40	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	..	1.53	1.46	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	..	1.59	1.52	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	..	1.65	1.58	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	..	1.71	1.64	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	..	1.77	1.70	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	..	1.83	1.76	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	..	1.89	1.82	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	..	1.95	1.88	..	..	..	..	..	..	..	..	..	..	..	..

KETTLEMAN HILLS—55 degree Gravity and above $1.65 per barrel. *Union Oil Company.

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 47*)

(Magnolia Petroleum Company)
(Effective January 24, 1929)

Mitchell County	$ .65
Howard-Glasscock County (shallow)	.65
Howard-Glasscock County (deep)	.65

Col-Tex Refining Company

Howard and Mitchell Counties	$ .80

MARKHAM

The Texas Company
(Effective January 30, 1929)

All grades	.90

LULING

All grades	.80

NORTH AND CENTRAL TEXAS

Effective January 24, 1929)
Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company)

Below 25	.60
25 to 25.9 gravity	.66
26 to 26.9 gravity	.72
27 to 27.9 gravity	.78
28 to 28.9 gravity	.84
29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 to 37.9 gravity	1.23
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.29
40 to 40.9 gravity	1.32
41 to 41.9 gravity	1.35
42 to 42.9 gravity	1.38
43 to 43.9 gravity	1.41
44 and above	1.44

SOUTH TEXAS

Mirando and Salt Flat	.80

GULF COAST

(Effective January 26, 1929)

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.05
25 to 25.9 gravity	1.07
26 to 26.9 gravity	1.09
27 to 27.9 gravity	1.11
28 to 28.9 gravity	1.13
29 to 29.9 gravity	1.15
30 to 30.9 gravity	1.17
31 to 31.9 gravity	1.19
32 to 32.9 gravity	1.21
33 to 33.9 gravity	1.23
34 to 34.9 gravity	1.25
35 to 35.9 gravity	1.27
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.33
39 to 39.9 gravity	1.35
40 and above	1.37

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

SOMERSET

Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

WYOMING-MONTANA

(Effective January 25, 1929)
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.36
Grass Creek	1.36
Rock Creek	1.18
Lost Soldier	.95
Lance Creek	1.38
Mule Creek	1.10
Notches	.65
Big Muddy	1.28
Osage	1.38
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.48
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA

Sunburst	$1.65
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

Artesia	1.08
Hogback	1.43

CANADA

(Effective January 26, 1929)

Oil Springs	1.97
Petrolia	1.90

LOUISIANA-ARKANSAS

(Effective January 26, 1929)
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley*
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company.)

27 to 27.9 gravity	.78
28 to 28.9 gravity	.84
29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 to 37.9 gravity	1.23
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.29
40 to 40.9 gravity	1.32
41 to 41.9 gravity	1.35
42 to 42.9 gravity	1.38
43 to 43.9 gravity	1.41
44 gravity and above	1.44

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS

(All Companies)

Below 28 gravity	.70
28 to 28.9 gravity	.74
29 to 29.9 gravity	.78
30 to 30.9 gravity	.82
31 to 31.9 gravity	.86
32 gravity and above	.90

SMACKOVER

(All Companies)

Below 24 gravity	.75
24 and above	.90
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.85
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 Gallons)

	Total Month February	Total Month January	Week Ended March 2nd		Week Ended February 23
AT ATLANTIC COAST PORTS—					
Baltimore	385,000	370,000	70,000		63,000
Boston	422,000	276,000	72,000		142,000
New York	3,785,000	4,032,000	818,000	"A"	810,000
Philadelphia	917,000	1,081,000	271,000		151,000
Others	501,000	487,000	.....		85,000
Total	6,010,000	6,246,000	1,231,000		1,251,000
Daily Average	214,643	201,484	175,857		178,714
AT GULF COAST PORTS—					
Galveston District	.....	.....	.....		.....
New Orleans and Baton Rouge	962,000	1,079,000	265,000		253,000
Port Arthur & Sabine Dist.	23,000	127,000	23,000		.....
Tampa	4,000	40,000	.....	"A"	4,000
Total	989,000	1,246,000	288,000		257,000
Daily Average	35,321	40,193	41,143		36,714
AT ALL UNITED STATES PORTS—					
Total	6,999,000	7,492,000	1,519,000		1,508,000
Daily Average	249,964	241,677	217,000		215,428

"A" Revised.

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

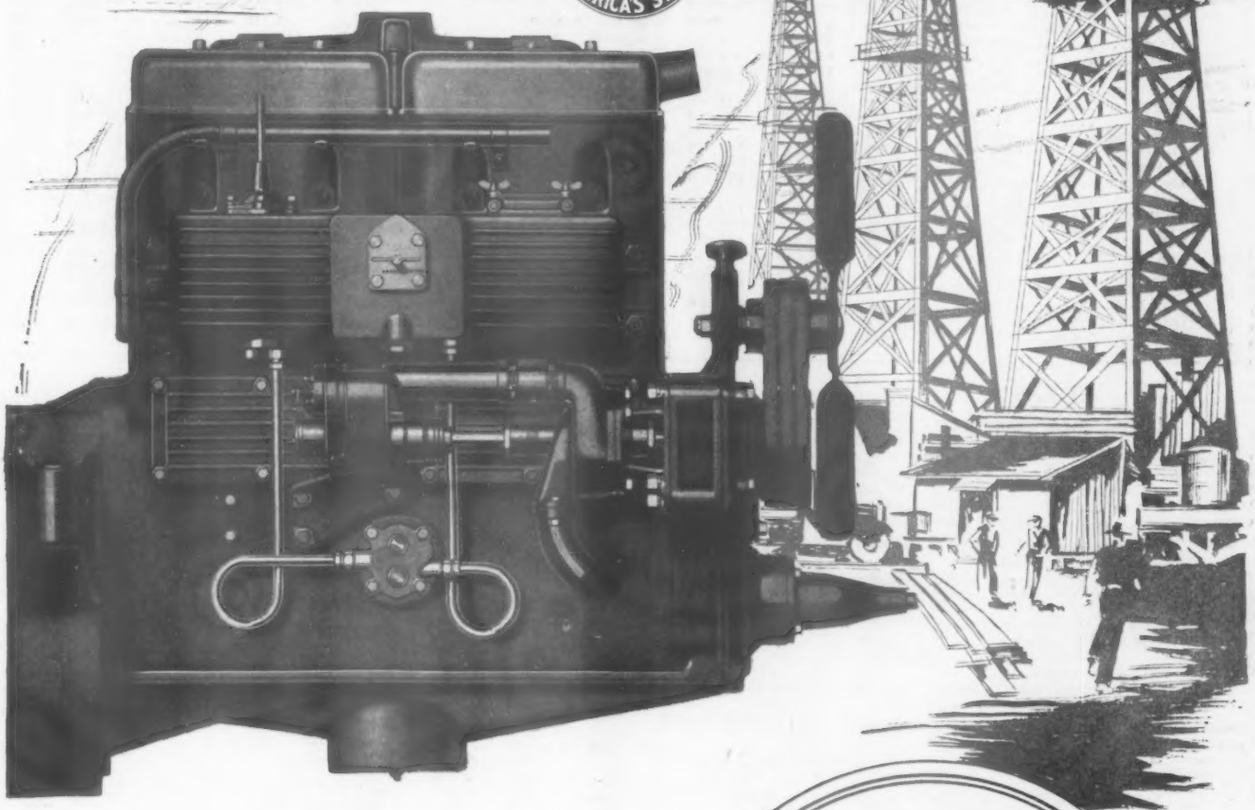
American Petroleum Institute Figures (Barrels of 42 Gallons)

	Total Month February	Total Month January	Week Ended March 2nd		Week Ended February 23
AT ATLANTIC COAST PORTS—					
Baltimore	398,000	491,000	252,000		.....
Boston	.....	.....	.....		.....
New York	1,085,000	517,000	363,000		.....
Philadelphia	483,000	367,000	95,000		80,000
Others	325,000	246,000	78,000	"A"	100,000
Total	2,291,000	1,621000	788,000		180,000
Daily Average	81,821	52,290	112,571		25,714
AT GULF COAST PORTS—					
Total	105,000	160,000	75,000	"A"	30,000
Daily Average	3,750	5,161	10,714		4,286
AT ATLANTIC AND GULF COAST PORTS—					
Total	2,396,000	1,781,000	863,000		210,000
Daily Average	85,571	57,451	123,285		30,000
DISTRIBUTION OF TOTAL CALIFORNIA OIL RECEIPTS—					
Crude	175,000	.....	175,000		.....
Gasoline	1,817,000	1,537,000	517,000		130,000
Kerosene	155,000	174,000	75,000		80,000
Gas Oil	249,000	70,000	96,000		.....
Total	2,396,000	1,781,000	863,000		210,000

"A" Revised.

Dependable Power for Every Purpose

CONTINENTAL MOTORS — Powerful as the Nation — AMERICA'S STANDARD



CONTINUOUS power, instantly responsive to the accelerator, rugged design which spells dependability in every line—these are features of Heavy Duty Slow Speed Continental Industrial Engines of particular value in the oil fields. Twenty-eight years of unequalled specialized experience in engine design is a Continental asset—an asset of tremendous significance in the manufacture of economical gasoline power plants for oil field service.

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Sectional view showing a few outstanding features of Heavy Duty Continental Industrial power plants.

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INDUSTRIAL EQUIPMENT DIVISION
Office and Factory: Muskegon, Michigan

The Largest Exclusive Motor Manufacturer in the World

Continental Engines

Say you saw it in The OIL WEEKLY

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1927	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United Stases Total
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January	675,450	108,300	523,300	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,800
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
December	710,600	97,200	603,700	135,050	37,300	81,350	113,450	74,600	697,850	2,551,100	79,084,400
1929											
January	722,550	97,150	632,500	136,750	36,650	78,600	111,950	73,200	747,250	2,635,600	81,703,600
Feb. 2	728,700	96,800	641,100	139,550	35,950	77,400	110,600	71,850	778,100	2,680,050	18,760,350
Feb. 9	728,350	95,700	640,550	143,500	35,700	77,250	109,600	72,950	789,900	2,693,550	18,854,850
Feb. 16	708,200	95,950	635,350	142,550	36,150	76,850	108,600	73,150	798,100	2,674,900	18,724,300
Feb. 23	703,400	95,500	656,250	142,400	35,700	76,100	107,850	68,750	808,200	2,694,150	18,859,050
Mar. 2	713,000	95,700	659,750	143,500	35,700	74,400	107,100	71,950	801,800	2,702,900	18,920,300
March 9	680,250	95,400	660,500	144,600	35,650	73,600	108,000	70,850	795,300	2,665,950	18,661,650
Increase	.....	.....	6,750	1,100	.....	.....	900	.....	.....	.....	.....
Decrease	32,750	300	.....	.....	50	800	.....	1,100	6,500	36,950	258,650

TEXAS
(Outside Gulf Coast)

PANHANDLE DISTRICT

	Mar. 9	Mar. 2
Carson County	5,900	5,800
Gray County	21,450	20,800
Hutchinson County	26,000	27,050
Wheeler County	500	750
Others	1,500	1,700
Total	55,350	56,100

NORTH TEXAS

Archer County	17,200	17,300
Burkburnett	9,150	9,000
Electra	12,950	12,850
Iowa Park-KMA	6,000	6,100
Montague and Cooke Co.'s	9,750	9,600
Wilbarger	26,750	26,700
Others	500	500
Total	82,300	82,050

WEST CENTRAL TEXAS

Brown County	8,950	9,000
Callahan County	3,700	3,700
Coleman County	3,750	3,700
Eastland-Desdemona	6,700	6,750
Jack County	1,700	1,700
Palo Pinto County	400	400
Shackelford County	13,300	13,000
Stephens County	6,400	6,550
Throckmorton County	700	700
Young County	7,250	7,300
Others	700	650
Total	53,550	53,450

WEST TEXAS

Crane-Upton Counties	50,550	49,900
Crockett County	2,300	2,200
Howard and Glasscock Co.'s	47,300	45,500
Jones County	6,050	6,200
Mitchell-Scurry Co.'s	2,750	2,700
Pecos County	86,550	85,800
Reagan County	18,600	18,500
Winkler County	171,000	173,800
Others	1,950	1,650
Total	387,050	386,250

EAST CENTRAL TEXAS

Boggy Creek	4,500	3,600
Corsicana-Powell	8,550	8,700
Currie	450	450
Mexia	5,600	5,700
Nigger Creek	600	600
Richland	400	400
Wortham	1,200	1,200
Total	21,300	20,650

SOUTHWEST TEXAS

Dale	800	700
Laredo District	12,200	12,400
Luling	12,500	12,650
Lytton Springs	950	1,000
Somerset	600	600
Salt Flat	28,400	28,650
Others	5,500	5,250
Total	60,950	61,250
T'tl Tex. (Outside Gulf Coast)	660,500	659,750

TEXAS GULF COAST

Barbers Hill	6,000	5,650
Batson	1,400	1,400
Big Creek	5,000	4,500
Blue Ridge	4,100	4,350
Boling	2,100	1,800
Damon Mound	700	800
Goose Creek	6,650	6,900
Hull	10,550	10,300
Humble	5,550	5,250
Orange County	3,000	2,800
Pierce Junction	11,700	11,950
Raccoon Bend	1,950	2,600
Saratoga	950	900
Sour Lake	2,900	2,950
South Liberty	6,000	5,850
Spindle Top	33,900	32,900
Sugar Land	8,050	7,950
West Columbia	7,000	7,000
Others	5,100	7,000
Total	124,500	122,850
Texas Total	785,000	782,600

OKLAHOMA

Braman	3,350	3,350
Logan County	11,800	11,650
Blackwell	4,100	4,050
Hubbard	1,950	1,950
Thomas	900	850
Tonkawa	10,550	10,500
Garber	5,250	5,700
Burbank	22,400	22,350
Osage (outside Burbank)	25,850	25,850
Cushing	20,500	20,500
Yale Jennings	7,600	7,600
Davenport	1,600	1,650
Bristow Slick	18,900	18,950
North Okmulgee	14,650	14,650
Lyons Deaner	8,450	8,450
Cromwell	7,800	7,850
Papoose	3,400	3,400
Wewoka	5,000	5,000
Seminole	33,400	33,800
Bowlegs	35,150	36,100
Searight	9,100	9,850
Little River	82,600	83,800
Earlsboro	56,750	58,750
Duncan District	6,950	6,950
Graham	4,400	4,400
Fox	1,500	1,500
Healdton	13,000	12,950
Hewitt	8,550	8,500
Scholem Alechem	13,000	13,100
Pearson	1,650	1,650
St. Louis	99,750	111,950
Allen	25,600	25,900
Maud	34,100	37,150
Mission	36,550	47,000
Okla. City	3,500	5,150
Others	40,650	40,200
Total	680,250	713,000

CALIFORNIA

Santa Fe Springs	186,000	197,000
Long Beach	183,000	180,000
Huntington Beach	47,000	47,000
Torrance	15,000	15,000
Dominguez	10,000	10,000
Rosecrans	6,500	6,500
Inglewood	26,500	26,500
Midway-Sunset	73,000	73,000
Ventura Avenue	56,500	55,500
Seal Beach	34,000	33,000
Elwood-Goleta	22,000	22,500
Kettleman Hills	3,500	3,500
Others	132,300	132,300
Total	795,300	801,800

KANSAS

Greenwood County	21,500	21,900
Florence-Covert	1,000	1,000
Peabody-Ebling	3,000	3,000
Eldorado-Towanda	12,000	12,050
Augusta-Fox Bush	2,900	2,900
Rainbow Bend	1,000	1,000
Russell	3,250	3,400
Churchill	7,050	7,050
Oxford	5,750	5,750
Sedgewick	9,150	8,650
Others	28,800	29,250
Total	95,400	95,700

NORTH LOUISIANA

	Mar. 9	Mar. 2
Homer	4,000	3,950
Haynesville	5,550	5,500
Caddo Light	8,450	9,000
Caddo Heavy	3,150	2,650
DeSoto-Red River	4,050	4,000
Elm Grove	600	600
Bellevue	650	700
Cotton Valley	2,950	2,850
Urania	5,600	5,750
Pleasant Hill	450	450
Others	200	250
Totals North Louisiana	35,650	35,700

LOUISIANA GULF COAST

Bayou Boullion	500	500
East Hackberry	5,000	5,750
Edgerly	800	850
Evangeline	800	800
Lockport	4,700	4,800
Sorrento	550	500
Sulphur Dome	2,000	2,000
Sweet Lake	450	500
Vinton	4,800	4,350
Others	500	550
Total Louisiana Gulf Coast	20,100	20,650
Louisiana Total	55,750	56,350

ARKANSAS

El Dorado	4,500	4,600
Champagnolle	8,450	8,700
Smackover Light	6,350	6,250
Smackover Heavy	50,450	50,900
Stephens	1,000	1,000
Nevada	1,300	1,400
Lisbon	1,450	1,450
Others	100	100
Total	73,600	74,400

MOUNTAIN STATES

WYOMING

Salt Creek	34,350	33,600
Grass Creek	2,250	2,250
Elk Basin	750	700
Big Muddy	2,250	2,250
Lost Soldier	3,500	3,400
Rock River	2,300	2,150
Lance Creek	300	300
Oregon Basin	3,000	3,000
Others	2,850	2,550
La Barge	2,050	2,050
Total	53,600	52,250

MONTANA

Cat Creek	1,350	1,300
Sunburst	5,400	5,400
Pondera	1,900	2,700
Total	8,650	9,400

COLORADO

Moffats (Craig)	1,150	1,450
Fort Collins	2,550	2,650
Florence	1,250	1,400
Others	2,050	1,950
Total	7,000	7,450

NEW MEXICO

Table Mesa	....	....
Artesia	950	950
Hogback	500	400
Rattlesnake	....	1,350
Others	150	150
Total	1,600	2,850
Totals Mountain States	70,850	71,950

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	108,000	107,100

PRODUCTION SUMMARY

East of Rockies	1,799,800	1,829,150
Total U. S.	2,665,950	2,702,900

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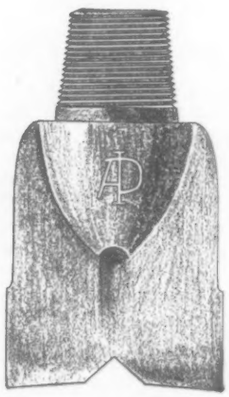

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Hoover's Policy Is Not to Lease Government's Oil Lands

WASHINGTON, D. C.—Abandonment of the policy of disposing of government-owned oil lands by lease was announced Tuesday by President Hoover. Declared to be adopted for the conservation of the government's oil resources, the president's action, however will be a concrete contribution by the administration toward solution of the over-production problem of the oil industry. With the government the largest single owner of oil lands in the country and with more than six per cent. of the total output coming from federal lands, the president's step, which limits the leasing of lands to those which are required by law to be disposed of, will have a widespread influence by removing from the field of possible production large areas the development of which otherwise was to be anticipated within the next few years.

In reply to questions from representatives of the press as to the policy of the federal government in the disposal of oil lands in the future, President Hoover declared that "There will be no leases or disposal of oil lands, no matter in what category they may lie amongst the various government holdings or control, except those which may be mandatory by congress.

"In other words, there will be complete conservation of oil in this administration." With the exception of certain Indian lands, of which, under act of congress, a certain proportion must be offered for lease annually, the president's action removes from exploitation the unleased lands in the naval reserves and such other oil lands as may be in the possession of the government.

As a member of the Federal Oil Conservation Board from the time of its creation by President Coolidge in 1924 until he resigned from the cabinet last summer, President Hoover thoroughly familiarized himself with the situation in the oil industry and the important effect upon over-production exerted by the steadily increased government oil acreage which was being leased. Investigation by the board developed that the government was annually throwing large areas of land open for lease, regardless of the condition of the oil industry.

Recommendations by the secretary of the interior that congress amend the law requiring the leasing of Osage lands so as to permit the department to restrict leasing in time of overproduction, resulted in reducing the area for annual leasing from 100,000 to 25,000 acres. More than 200,000 acres of restricted Indian lands were leased during the fiscal year 1928, at the end of which the Interior Department was supervising 543 leases and 22,000 prospecting permits. In addition, numerous leases had been made on the naval reserves, some of which had been invalidated by court action, and for the cancellation of others litigation is pending.

The great extent to which these lands had been disposed of is indicated by the fact that of 30,181 acres in Reserve Number 2, only 30 acres are under direct government control, 19,680 acres being patented and 10,471 acres leased under 27 separate leases to 11 lessees.

President Hoover's policy with respect to the federal lands, it was indicated, has no relation to private undertakings, with respect to which oil producers and land owners must work out their owns plans. The effect of his action, however, will be to remove from possible development large areas in which intensive prospecting is now being carried on, and in any one of which important pools might be found.

A scramble on the part of the industry to develop new privately owned fields as a result of the government's withdrawal, it was admitted, might tend to nullify the effect of the administration's new policy. It is anticipated that the president's statement will be followed up by recommendations to congress that it amend the leasing act of 1920 so as to make fully effective the policy which he has mapped. Retention undeveloped of government oil lands will bring about the conservation which the president has consistently urged, and provide the assurance that in the event of an emergency the government will have available an adequate source of supply of oil, made increasingly important of the conversion of many naval vessels from coal to oil burners and the motorization of the army. It has long been urged that the leasing policy was short-sighted and that the government was depleting its oil reserves at a rapid rate, while other governments were seeking resources that would insure their supply when that of the United States was exhausted.

Rockefeller Ousts Stewart From Standard of Indiana

CHICAGO.—Another victory for the Rockefeller interests was realized March 7 in the defeat of Colonel Robert W. Stewart for re-election to chairmanship of the directorate of the Standard Oil Company of Indiana in a stockholders meeting at Whiting, Indaina. A tally of the share votes gave Colonel Stewart 2,954,986, while opposition, headed by John D. Rockefeller, Jr., received 5,510,290 votes. The number of stockholders voting for Stewart was greater than those voting against him.

Dr. Burton, former president of the company, probably will take over the chairmanship. Dr. Burton was nominated by Winthrop W. Aldrich, brother-in-law of Rockefeller, Jr., who directed the fight against Colonel Stewart.

The remainder of the directorate, endorsed by stockholders following Aldrich's nomination, includes: Edward J. Seubert, Edward J. Bullock, Melvin A. Traylor, Allan Jackson, Amos Ball, R. E. Humphreys, R. H. McElroy, Charles J. Barkdull, Dr. Gentry Cash and Thomas Cooke.

Vacancies left on the board by failure to re-elect Colonel Stewart and L. L. Stephens were filled by the last two named above.

At the diretors' meeting following the shareholders' meeting, the executive personnel for the Standard Oil Company of Indiana was chosen. It included:

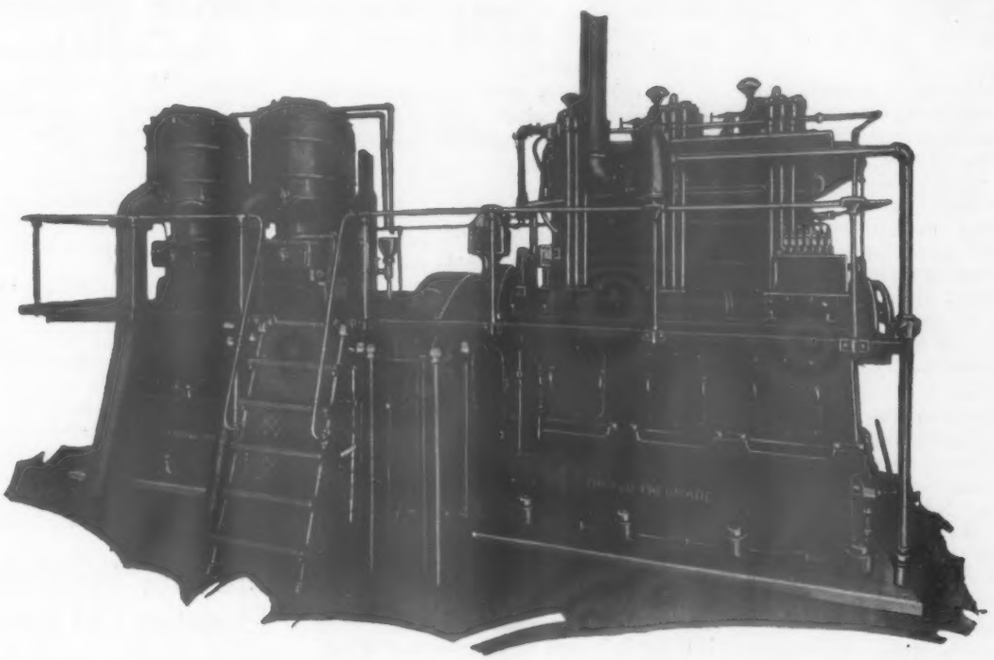
Edward J. Seubert, president; Allan Jackson, R. H. McElroy, E. J. Bullock and R. E. Humphreys, vice presidents; R. E. Humphreys, general manager in charge of manufacturing; L. L. Stephens, general counsel; C. J. Barkdull, treasurer; Felix T. Graham and Ralph E. Clarke, assistant treasurers; F. T. Graham, secretary; C. J. Barkdull and Ralph E. Clarke, assistant secretaries.

Standard Oil Company of Indiana's new president was on the side of Colonel Stewart during the battle for proxies. Stewart also polled the votes of more than 99 per cent. of his employees.

The battle for control of the Standard Oil Company of Indiana between Colonel Stewart and the Rockefeller interests grew out of Stewart's relations with the Continental Trading Company, which was subjected to senatorial investigation in connection with the disposal for oil reserve leases. A year ago, Rockefeller had requested Stewart to resign the chairmanship on account of his alleged complicity in the affair. Stewart refused and thereby eventually incurred the ill will of eastern capitalists. It was the influence of these holders of large numbers of shares in the company that defeated Stewart.

John D. Rockefeller, Sr., apparently took no personal active part in the fight against Stewart. He approved his son's actions, however, and the knowledge of his attitude, made public by the press, probably influenced a great many to vote against Stewart.

A Modern Compressor for Gasoline Extraction and Oil Field Service



This is an ideal combination of a 200 B.H.P., vertical, three-cylinder, four-cycle CP Gas Engine, directly coupled to a CP vertical, duplex, double-acting compressor, for gasoline extraction, gas boosting and general oil field service. The unit offers the following outstanding advantages:

1—Ease of installation.

2—Small and inexpensive foundation.

3—Small floor space.

4—Smooth operation with minimum of vibration.

5—High overall efficiency, the gas consumption being only 9 cu. ft. per B.H.P. hour at full load.

6—The engine is heavily built and can be converted for Diesel operation where the gas supply becomes inadequate.

7—A large number of compressor cylinder sizes is available for pressures of 25 to 1000 pounds.

8—All engine and compressor cylinders have removable liners.

9—Compressor discharge valves are on the bottom and the cylinders are self-draining.

10—Force feed lubrication for all cylinders and bearings.

11—All engine valve cages are removable. The exhaust valve cages as well as the exhaust manifold, are water cooled.

12—A device is provided for stopping the engine if the lubricating oil supply fails.

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Say you saw it in The OIL WEEKLY

A. P. I. General Conservation Committee to Meet at Houston

HOUSTON.—The initial meeting of the American Petroleum Institute's general committee on conservation of crude production will be held in Houston, March 15 and 16 at The Texas Company headquarters, it was announced early this week following decision to change the place of meeting from New York. Houston was given as more centralized point for members of the committee.

This general committee, a small group of leading figures in the industry, is the outgrowth of the institute's step originally taken at a meeting held by the executive committee of the institute February 12 in St. Louis, where a tentative working plan for curbing overproduction was started. The chief accomplishment of the St. Louis meeting, outside of creating favorable sentiment toward effecting a worldwide plan of conservation, was to enlist the industry's leaders into active work of the movement.

Conservation has held a conspicuous place in the American Petroleum Institute's program since electing E. B. Reeser as president, one of the earliest proponents of conservation of the world's crude resources. Mr. Reeser's efforts, combined with favorable backing from leaders over the nation, resulted in the institute's executive committee meeting in St. Louis a month ago, when the actual working personnel was begun.

R. C. Holmes was named chairman of the general committee at the St. Louis meeting, and four regional committees, representing separate strategic producing territories were created with members appointed by the executive committee of the institute. The regions, as divided at the St. Louis meeting, are: Pacific Coast, Gulf Coast and Atlantic Seaboard, Interior, and Mexico and Northern South America. Other members to compose the general committee on conservation are the chairmen of the four regional committees and two additional men from each of the four regions represented, the latter to have been named prior to the initial gathering of the general committee. Chairmen of the ragional committees are: K. R. Kingsberry, Pacific Coast; George S. Davison, Gulf Coast and Atlantic Seaboard; Wallace C. Franklin, Interior; and E. J. Sadler, Mexico and Northern South America. During the past week the Interior regional committee named as its two additional members to serve the general committee Wm. N. Davis and B. H. Stephens. After final naming by other regional committees of their respective two additional members the general committee will be composed of 13 members.

From plans started at the St. Louis meeting the purpose of this initial meeting of the general committee in Houston will be to study suggestions thus far outlined by the various regional committees, who have by now met to discuss their particular territorial problems of overproduction. The original plan called for regional committees to work out tentative programs to be submitted to the general committee. Deliberations of members of the general committee in meeting at Houston is expected to result in some definite program being formulated to control the world's oil supply.

The progressive move made at the St. Louis meeting, which followed an informal discussion among producers concerning the hazards probably existing by virtue of the present flood of crude weakening markets, is the first actual step taken by the industry to broaden proration efforts into a worldwide program.

Conservation Bill Being Drawn for California

Los Angeles.—The committee, composed of three attorneys and three operators, appointed to frame a bill which would force a reduction of crude oil production through the medium of gas curtailment, still is working on a plan which will be applicable to all critical fields alike and which would be sweeping enough to force a lower production in townlot or intensely developed areas. The bill may be attached as a rider onto some other bill, but it is sure to be presented at this meeting of the legislature. The reason for making the bill apply to gas rather than oil is because there has been a wastage of natural gas, but no wastage of oil. Unless it is possible to show waste, it is very difficult to force a shut down of an operators property.

Fort Worth Geologists Program Arranged

Fort Worth, Texas.—The Fourteenth Annual Convention of the American Association of Petroleum Geologists will be held here beginning Thursday, March 21, through the balance of the week. The various committees engaged in arranging the program and entertainment features report that everything is in order for a successful meeting, and hotel reservations indicate an unusually large attendance.

The business programs have been carefully arranged so as to include papers of general interest among members of the association, while one or more lectures will be given by nationally known geologists, with the general public invited to attend. Professional rodeo performers now engaged in staging their annual show in Fort Worth will be held over for the convention to give the visiting geologists a rodeo on the night of March 22, with a barbecue preceding the event.

Houston.—Shell Petroleum Corporation's Allen 4 at Allen Dome, Brazoria County, has been worked over and late last week was reported flowing by heads, making 22[illegible] barrels per day. Total depth of the well 5109 feet. This well came in originally at 4913 feet, at which depth some oil was bailed in March, 1928; and later, after being deepened, it came in at the present depth in May, 1928; and flowed for several months.

Franklin Deepening Test In Caddo County

Tulsa—Wirt Franklin Petroleum Company is preparing to deepen Van 1, SW NW NW Section 4-5n-9w, one mile west of Cement, in Caddo County. Depth of the test is 4061 feet and it will be drilled to 6000 feet. Numerous showings have been found in the test. The lower Pennsylvanian and Simpson sands will be the objectives.

The test is situated on a block of 1700 acres near the center of the Cement anticline, a structure 12 miles long and from one to two miles wide, with a closure of over 200 feet. This anticline is near the axis of the Anadarko basin, one of the largest single structural features in the Mid-Continent. The Cement anticline is the largest and best defined of any one in the basin and may have the largest drainage of any anticline in Oklahoma.

Directors Re-Elected by Houston Oil Company

Houston.—Following the annual meeting, March 12, of stockholders of the Houston Oil Company of Texas, directors re-elected to serve for the coming year were announced. They include: E. H. Buckner, John F. Shepley, Thomas S. Maffitt, Louis S. Zimmerman, Samuel W. Fordyce, A. C. Brown, Samuel C. Davis, David Hannah, George Mackubin, H. O. Head, B. H. Lang, A. W. Standing and B. A. Tompkins.

Those re-elected to the directorate of the Houston Pipe Line Company were: E. H. Buckner, W. W. Blocker, H. O. Head, A. S. Henley, George A. Hill, Jr., A. H. Kennerly, T. M. Kennerly, George Mackubin, Thomas S Maffitt, C. B. Kinney and Louis S. Zimmerman.

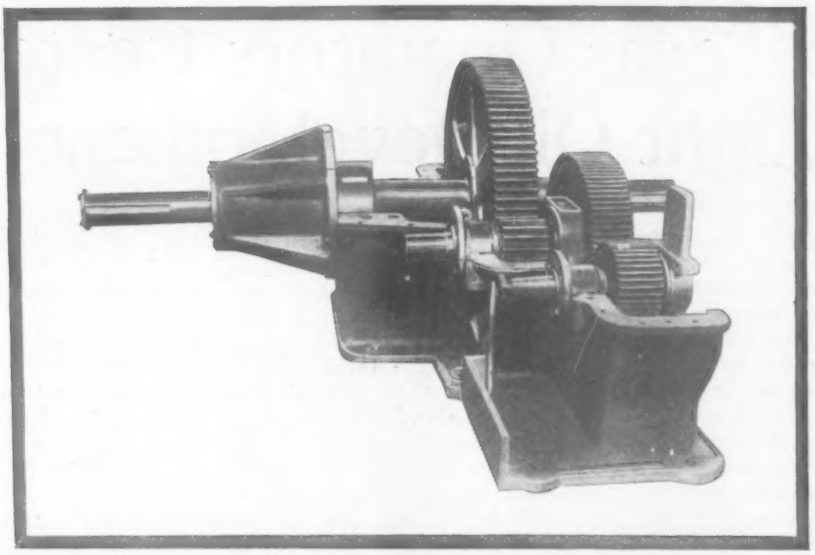
On the same day, stockholders of the Houston Natural Gas Company elected the following directors: E. H. Buckner, T. M. Kennerly, W. Tucker Blaine, W. B. Trammell and D. P. Perkins.

E. H. Buckner is president of all three organizations.

Oklahoma Deep Test

Tulsa—The second deepest test ever drilled in Oklahoma is the Indian Territory Illuminating Oil Company and Foster Petroleum Company's Cook 1-A, SE SW SW Section 10-1n-11e, a wildcat near Coalton, in Coal County, which is drilling below 6525 feet.

Five Years....
No Replacements



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Two-speed Pumping Equipment

Say you saw it in The OIL WEEKLY

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

West Texas Operators Center on Light Oil Development

SAN ANGELO, Texas.—Sources of light oil production in West Texas are commanding more attention of drilling companies, and five separate areas furnishing 35 gravity oil, or better, had tests in process of completion early this week. The Big Lake field has been the only high gravity oil producing area in the district to offer production in flush quantities, while the average gravity of oil produced from the important fields in Pecos, Crockett, Crane, Upton, Winkler, Howard and Mitchell Counties is slightly under 30 gravity.

The Shipley pool, which is making 35 gravity oil from the 2400-foot horizon in southeastern Ward County, received a slight extension to the southwest late last week when the J-H-L Oil Company's S. F. Hayzlett 1, located in the north corner of an 80-acre lease in Section 17, Block 5, swabbed 50 barrels of oil on preliminary test for production in regular pay at 2456-2470 feet, with eight-inch casing set at 2440 feet. Atlantic Oil Producing Company and Delmar Oil Company's Hayzlett 1, an offset to Shipley Oil Corporation's discovery well, pumped and flowed 75 barrels of 35 gravity oil when tested Thursday from pay at 2473-85 feet.

In northern Pecos County, Pecos Valley Oil Company's Fee 2, an offset to the same company's discovery well, averaged 85 barrels daily during the first two days on production after drilling out cement plug for casing seat at 1585 feet. This well is producing from sandy-lime at 1617-25 feet, and the oil tests above 35 gravity. About five miles to the south, McCarty Oil Company of Wichita Falls is encountering difficulty in re-setting casing in A. A. Gray 1, which is making small heads of oil with water. This well is located in Section 591, and logged oil sand at 1150-62 feet. McCarty Oil Company's Bennett 2, which was originally drilled by the Quinby Oil Company, and located about one mile northwest of the above test, is pumping 25 barrels of 39 gravity sweet oil daily at 1196-1230 feet, with a total depth of 1457 feet.

In the Llano pool, north Winkler County, drilling is being continued on two flowing tests that have been in process of completion for several weeks. Gulf Production Company's Scarborough 1 is flowing 80 barrels of 36 gravity oil daily while drilling and coring sandy-lime at 2987-3155 feet, and Shell Petroleum Corporation and Llano Oil Company's Scarborough 4, a diagonal offset, is flowing 110 barrels of 37 gravity oil daily by heads while drilling at 3182 feet, after topping pay at 2990 feet. Magnolia Petroleum Company's Scarborough 1, which gave the pool its first producer of any size and necessitated the drilling of the two above offsets, is drilling deeper from 3030 feet while flowing 110 barrels of 37 gravity oil daily.

Garza County

Another high gravity oil pumper for Garza County was in prospect late last week when the Emerald Oil Company's J. M. Boren 4, located in the northeast corner of Section 136, Block 5, H.&G.N. Survey, developed 1600 feet of oil in hole after shot of 100 quarts in lime at 2515-35 feet, with a total depth of 2573 feet. Emerald Oil Company's Boren 1, located in the same section, opened the pool in May, 1926, and pumps sufficient amount of crude to supply fuel for drilling.

Lockhart & Company's Hubbard Heirs 1, located in the Wheat pool, Loving County, established a shallower oil horizon after shot at 2592-2621 feet and swabbed and flowed 110 barrels of 31 gravity black oil during gauge ending Saturday morning. This well is located in Section 84, Block 33, H.&T.C. Survey, and less than mile east of the Pecos River. Lockhart & Company has completed eight producers, which are making about 400 barrels of 39-40 gravity sweet oil daily from the Deleware at the 4200-foot level, and are the only producers in the Wheat pool. The oil is being shipped in tank cars to the Rio Grande Oil Company's El Paso plant.

So-called "grass roots" production being developed by Marland Production Company on its Yates "A" lease in the Yates field has accounted for an unusually large pumper. Marland Production Company's Yates 2-A (shallow) located in the northeast corner of Section 60, near the west bank of the Pecos River, and a twin location to a producer in the regular pay, is credited with having pumped 630 barrels of "dead" oil during first gauge; 580 barrels on second day and 625 barrels on third day. This well has a total depth of 59½ feet, and is free of water. The oil is escaping from one, or more, nearby wells that have leaking casing seats, and the production is finding its way outside the pipe to the shallow sand.

A survey made March 1 on wells in Winkler County shows a total of 557 wells making 173,885 barrels daily, or an average of 312 barrels daily, with 73 wells flowing open and 340 producers flowing under restrictions in accordance with proration rules. The number of pumping wells in the count has increased to 130, while 415 are making b.s. and water. Fourteen completed tests have been abandoned.

Atlantic Moving Winkler Oil for Humble

San Angelo, Texas.—Atlantic Pipe Line Company has contracted to handle 1,000,000 barrels of Winkler County crude on a common carrier basis for the Humble Oil & Refining Company from "outside" connections previously served by Humble Pipe Line Company to the Gulf Coast. The oil will be delivered to Humble Oil & Refining Company's tank farm near the Spindletop field at a maximum rate of 7500 barrels daily. Atlantic Pipe Line Company's posted tariff on such crude movement is 40 cents per barrel from its Winkler station to Gulf Coast points near its terminal at Atreco, with a field gathering charge of 10 cents per barrel in addition. Atlantic Pipe Line Company is also handling 5000 barrels of Hendrick crude daily for a brief period on the same tariff for Magnolia Petroleum Company, as the latter is purchasing the oil from Pure Oil Company at posted price over the balance of 1929. This contract will be terminated when Magnolia Pipe Line Company completes its 10-inch extension line into Winkler County from Midland.

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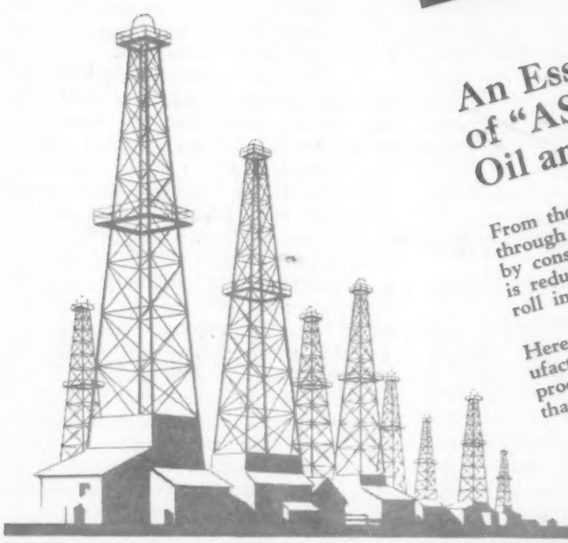

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Repressure Big Lake With Gas from Deep Well

Fort Worth, Texas.—Steady gains in oil and gas production being registered by the Group One Oil Corporation (Texon Oil & Land Company) University 1-B, which gave the Big Lake field, West Texas district, honors for the deepest oil well late last November, has resulted in preliminary steps being taken towards repressuring the regular pay horizons in the field with residue gas from the deep well. University 1-B gauged 2134 barrels of 56-57° (corrected) gravity oil and slightly more than 21,000,000 cubic feet of wet gas during the 24 hour period ending March 11 from pay at 8500-8523 feet.

Owners of the property are mixing this crude with that produced from the 2400 and 3000-foot horizons, thereby boosting the corrected gravity of oil in stock tanks to about 45°. Current production from the property is slightly above 5000 barrels daily.

The deep producer is credited with having cost its owners approximately $140,000 from the time that it was spudded, and excluding the oil obtained in commercial quantities from the two regular horizons in the field before deeper drilling was undertaken, it has yielded more than a barrel of oil from the record depth pay for every dollar spent in drilling. Total crude recovery from the deep pay passed the 150,000 barrel mark late last week, while the gasoline yield from the heavy gas production has also earned an attractive revenue for its owners.

In order to balance the ratio of oil and gas production in this deep well and conserve pressure on the deep pay, the application of about 185 pounds back pressure has been applied for the past two weeks, without halting the gain in production. Abnormal rock pressure prevailing in this deep horizon makes it a dangerous proposition for a blowout, as it has about 2300 feet of open hole and is cased with pipe used in drilling wells to the regular horizons. No attempt has been made to stimulate production since the well started heading oil with a light flow of gas late in November.

Empire Buys Production of Rock Crossing

Wichita, Falls, Texas.—Empire Gas & Fuel Company has contracted to purchase the partially developed oil producing properties held by James E. McKanna, Wichita Falls operator, and associates on the W. T. Waggoner ranch in the Rock Crossing field, Wilbarger County, for a reported consideration of $1,750,000 cash. Titles are being examined, and consummation of the deal is expected this week. The six producing wells located on the 520 acres are averaging about 800 barrels daily, and on this basis the property is bringing a price of slightly more than $2,100 per barrel.

The acreage involved in the above transaction consists of three adjoining leases, being the northwest quarter of section 25; southwest quarter of section 32, and northeast quarter of section 32, all in block 4, H&TC Ry. survey.

Wells have been completed in both the 1900 and 2300-foot pay horizons, thereby permitting the drilling of twin locations on parts of the leases. A steady development program is required on this acreage in accordance with the usual W. T. Waggoner Estate lease contract terms, and the three tracts are sufficiently proven for production to enable the purchaser to materially boost the crude output.

Empire Gas & Fuel Company is familiar with operating conditions in Wilbarger County, and its oil recovery, as the properties of McCamey-Sherrin & J. F. Lucey were acquired April 15, 1926, for a total consideration of $1,350,000, which included $500,000 cash; $650,000 out of one-half of the first oil, and $200,000 payable in stock. In connection with this transaction, Empire Gas & Fuel Company obtained leases on 220 acres, with 36 wells making a total of 1,600 barrels daily from eight separate producing horizons in the original South Vernon field, with eight tests under way.

Second Large Completion in Cooke County Field

Wichita Falls, Texas.—Completion of a second large producer in the southwest part of the Bulcher field, Cooke County, was reported last week when Shell Petroleum Corporation's H. L. Dennis 3 swabbed 735 barrels of high gravity oil during the first 20-hour gauge after drilling oil sand at 1190-1205 feet and 1210-19 feet, with broken sand-lime pay in between. This lease is located north of The Texas Company's H. L. Dennis 47½-acre lease, which contributed a 950--barrel swabbing and flowing well at 1229 feet about one week previous. The drilling of inside locations on nearby acreage is now being started by The Texas Company, Shell Petroleum Corporation and Kewanee Oil & Gas Company.

Long Beach, Calif.—Only two small wells were completed in the Long Beach field during the week, but production showed only a small decline in the absence of flush production. After more than a year of intensive development, more than 140 wells are still drilling in the field. Completions are expected to offset the major portion of the weekly decline for several months.

Winkler Operator Protests Water Encroachment Report

EL PASO, Texas.—The Bankers Producing Corporation, which maintains headquarters here, has directed a letter to the Winkler County Proration Advisory Committee and a copy of same to each operator in the Winkler County area calling attention to conditions in the concern's Hendrick field. In launching a movement to interest Winkler County operators in reducing allowable production from 175,000 to 125,000 barrels daily late in February, Umpire R. A. Alsobrook cited his findings on water conditions in the above corporation's well as an illustration of rapid water encroachment in the field. The umpire's report was sent to each operator in the form of a signed letter, but the plan to reduce the daily output of Winkler County was defeated February 27 when put to a vote of the operators.

Hallett Raynolds, secretary of the Bankers Producing Corporation, is quoted below in his letter to the committee and operators: "When Mr. Alsobrook's letter was written February 21, there had not been one barrel of oil treated at our well. We have never at any time permitted our well to flow to its capacity, and it is not our desire to do anything that will injure it. The facts are that our well was not ruined and never has been ruined. Water in huge quantities has been present in Southern Crude Oil Purchasing Company's well to our north for many months. We believe that the 65 per cent. b.s.&w. (of which we only had one tank) was caused by water encroachment from the offset wells. We pinched our well from 1600 to 1000 barrels daily for several days and ran clean pipe line oil. In the past few days a small per cent. of water, five to six per cent., has shown in the oil, and we are now installing a treating plant. The percentage of water in our oil is far less than in the offset well of Southern Crude Oil Purchasing Company and there is less water in our well than in 75 per cent. of the wells in the field."

The Bankers Producing Corporation obtained a temporary injunction about January 15, 1929, restraining the Texas Railroad Commission from enforcing production restrictions on its single producer as per terms of the Winkler County proration plan, and partially opened its well to fill crude contract with a Fort Worth independent refiner. The Texas Pipe Line Company was made a party to the injunction also in order that a pipe line outlet to a Ward County tank car rack would be possible. The first contract has been terminated, and the concern is now shipping to the Louisiana Oil Refining Corporation at Shreveport, and paying The Texas Pipe Line Company 17½ cents per barrel gathering, transportation and tank car loading charges. The contract with the Louisiana plant owner is reported to involve maximum deliveries of 2000 barrels daily over the balance of this year. The well owner is receiving considerably below the field posted price of 65 cents per barrel for all oil delivered on this contract.

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Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Importance of Barbers Hill Production Increasing

HOUSTON. — Barbers Hill, Chambers County, has assumed a position as one of the foremost fields of the Texas-Louisiana Gulf Coast, in point of present as well as possibilities for future production. Two wells which came in during the past week have sent the daily production of the field upward to approximately 10,000 barrels; including around 9350 barrels from four wells, of which three are on the east flank of the dome while the other is on the south flank.

One of the two wells that came in during the week was Mills Bennett Production Company's Smith 1, which came in originally about October 1, 1928, making 4500 to 5000 barrels per day at 5231-5272 feet. It is in the east part of the field, and was the discovery well of the deep sand on that flank. After several months Smith 1 quit flowing and was put on the beam, and was still pumping around 300 barrels daily last week, but because of sand partially clogging up the screen, it was decided to wash the well. While the rods were being pulled the well began flowing, and on Monday of this week it was reported making 3000 barrels of fluid, 80 per cent. oil and 20 per cent. water.

The other new well of the week at Barbers Hill was Humphreys Corporation's Cornelia Barber 1, 350 feet south and a little west of Mills Bennett's Smith 1. Cornelia Barber 1 is producing from a sand at 5167-94 feet, making 26.5 gravity oil. It came in the latter part of the past week, flowing 2300 barrels daily of pipe line oil through a five-eighths-inch choke. Early this week the well was still holding up close to the initial.

Humphreys Corporation's Kirby C-1 is the other of the three deep producers on the east flank of the dome. It is approximately 300 feet north, and a little east of Mills Bennett's Smith 1. It came in shortly after January 1, 1929, flowing from 5172-5231 feet, making around 2300 barrels; and is now producing about 1000 barrels per day.

Close to these producers is Joe Bashara's Tarbutton 1, which is now at an interesting level, being at 5000 feet in lime rock, and likely to be the next well of the area. Mike Kouri (Rexal Petroleum Company) has set screen at 2070 feet in Shaw 1 on the east side of the field, and since the well would not flow, will put it on the beam. Mills Bennett Production Company and Republic Production Company are down 4450 feet in J. B. Means 1, which is a south offset to Humphreys Corporation's Cornelia Barber 1.

On the south flank of the dome, where another mile-deep sand was recently opened for its first oil production, Yount-Lee Oil Company's Chambers County Agriculture Association 1, the discovery well of that sand, made 3829 barrels in a day, according to a report early this week. That well came in January 29, 1929, making 30 gravity oil at 5315 feet. To begin with, it was making 2000 barrels daily on a one-half-inch choke. Four days later it was flowing 4000 barrels through a one-half-inch and a three-eighths-inch choke; and within two days, still on those two chokes, the production had increased to 4700 barrels per day.

Yount-Lee Oil Company's No. 2, 150 feet west of No. 1, was at 3730 feet in gumbo and lime early this week; and Gulf Production Company's Fisher Fee 1, offsetting Yount-Lee Oil Company's No. 2 to the west, is at about the same depth. Sun Oil Company's Chambers County Agriculture Association 1, located east of the above named tests, was at the same time at 2730 feet in gumbo and lime.

Sugarland Again Extends to Northeast

Houston. — The productive area at Sugarland, Fort Bend County, was extended slightly to the northeast March 11 when Humble Oil & Refining Company brought in Camp 2 for 1500 barrels initial production at 3610 feet. The well registered 730 pounds pressure. Camp 2 is 500 feet north of Camp 1, and is approximately 2000 feet northeast of Sugarland Industries 1, the discovery well of the field.

There are now nine flowing oil wells at Sugarland, all being the property of Humble Oil & Refining Company, the only concern that has yet operated in the field. The combined production of the nine wells is slightly less than 10,000 barrels per day..

Sugarland now has the remarkable record of 11 completed tests in the field, none of which has been a failure, the first test drilled there, following a torsion balance survey, having been completed as an oil producer the latter part of March, 1928.

Beside the nine flowing wells, Humble Oil & Refining Company has finished two other wells at Sugarland. Brazos Farm 1 was completed a gas well; and Deatherage 1, located in the extreme west end of the present field, came in flowing around 50 barrels per day, but produced only a few hundred barrels; it is now standing, preparing to go on the beam, and is expected to be a fair pumper.

Humble Oil & Refining Company is operating nine rigs at Sugarland; and there are several tests now nearing the depth from which the present production is coming; among them being Brazos Farm 2, 120 feet northwest of Brazos Farm 1, the gas well; and Brazos Farm 3, 300 feet northeast of Dew 1, the southernmost oil producer of the field. Both of these tests on the Brazos Farm lands are ostensibly within proven territory and will likely be producers. Each is now in sandy shale around 3200 feet. Other Sugarland production is from 3500 to 3700 feet deep. Besides the tests on the Brazos Farm lands, Sugarland Industries 5 is at an interesting depth. It is down 3422 feet in shale. That test is the most northerly yet started in the field, being 500 feet north of Sugarland Industries 4, now the most northerly producer. Sugarland Indusries 4 came in for 1600 barrels at 3700 feet.

Pierce Junction

Houston. — Texas Exploration Company's Fitzsimmons 3, in the northeast part of Pierce Junction field, was completed March 5, flowing 1250 barrels of 27 gravity oil under 600 pounds well pressure through a three-eighths-inch nipple. Pay sand was topped in this well at 4541 feet and drilled to 4581 feet. It is one of the best producers in this field, which has come to the second place among Gulf Coast salt dome fields within the past few months after continuous development since 1901.

Fitzsimmons 3 was previously completed January 26 in a sand 150 feet higher than the present depth, making at that time 1000 barrels of 33 gravity oil. Production declined rapidly until only 150 barrels daily was being produced from the upper sand. This production was mudded off and deeper drilling started.

Deep pay at Pierce Junction has served to raise the daily yield of the field to its present place of approximately 15,000 barrels. The deep pay is found to have stronger gas pressure and is also less uncertain for dependable production than the pay at 1000 to 1500 feet higher, which was accepted in earlier days as the dome's best crude source.

Los Angeles. — Petroleum Securities Company is abandoning McNally 1, an outpost test near the West Coyote field, at 7272 feet. It was one of the deepest wells ever drilled in the district. A test was made around 5800 feet, but the well failed to produce in commercial quantities.

Maverick County Well Opens Entirely New Area

Rycade Oil Corporation gets oil flow in test on west edge of Balcones Fault near Texas-Mexican line, 100 miles from production

By JACK LOGAN
Staff Representative

HOUSTON. — On the extreme western edge of the Balcones fault zone, near the Texas-Mexico border, an apparently important oil pool has been tapped by the Rycade Oil Corporation in Chittim 3. This test is in ultra-wildcat territory, more than 100 miles from the nearest producing fields; in Maverick County, 20 miles due east of Eagle Pass.

Late reports are not as encouraging, however, as earlier ones. On Saturday, March 9, Chittim 3 began making salt water, and on the following day 93 barrels of oil was bailed, along with salt water. On Monday it was reported that the well would be bailed for several more days before deciding upon further plans.

The well blew in originally on March 5, flowing by heads every three hours, and producing from 150 to 200 barrels of 43 gravity oil per day; the production coming from Georgetown lime at 3205-3207 feet. Ten-inch casing is set at 2873 feet. This test, like all the others which Rycade Oil Corporation has drilled in the immediate vicinity, was drilled with cable tools.

Before Chittim 3 came in, the Rycade Oil Corporation had abandoned five tests in the same area; but several of those earlier tests had important showings of oil and gas; and one of them, Chittim 1, was particularly interesting. From the Glenrose lime of the Lower Cretaceous at 5590 feet, Chittim 1 in April, 1927, tested 28,000,000 feet of wet gas and produced 100 barrels per day of 56 gravity distillate. It had previously encountered 5,000,000 feet of wet gas in the Glenrose at 5515 feet. This test began drilling in July, 1925; and was finally abandoned in the Glenrose at 5630 feet in August, 1928.

Chittim 3, which now has the pay at 3207 feet in the Georgetown lime is only 150 feet northeast of Chittim 1; and that No. 1 did not even have a showing of oil in the Georgetown.

The Georgetown lime heretofore has proved productive only to a limited extent. While the Edwards lime is the principal source of the production of the new Salt Flat field, Caldwell County, some of the oil there is from the Austin chalk and the Georgetown lime, both being above the Edwards.

There is no chance for competitive drilling in the area in which the Rycade Oil Corporation tests are located; for they are near the middle of a solid block of leases aggregating 254,000 acres. Practically all of this land is in two large tracts, the Chittim and the Sullivan ranches.

Including Chittim 3, Rycade Oil Corporation has drilled three tests on that land, and is now rigging up No. 4; and on the Sullivan ranch it has abandoned three tests and is now rigging up for Sullivan 4.

Rycade Oil Corporation's Chittim 3, Maverick County, Texas

Chittim 2 was approximately 2½ miles south of No. 1 and No. 3. It was the deepest test of the area. It began drilling in August, 1927, and encountered a showing of one barrel of 17 gravity oil in the Eagle Ford shale at 2410-60 feet. At 5200 feet in the Glenrose it bailed a little oil; and again at 7635 feet bailed a very small amount of oil. It was abandoned at 7635 feet in February, 1929; and is the second-deepest test ever drilled along the Balcones fault zone, also being exceeded in depth only by a few other wells anywhere else in the world. The deepest test yet drilled along the Balcones fault zone was United North & South Development Company's Kelly 1 in the Luling field, which hit schist around 4700 feet and stayed in that same formation until abandoned at 7859 feet; the same company's Tiller 2 had about the same record, being abandoned at 7504 feet.

Chittim 4, the new test which the Rycade Oil Corporation has started, is in the southeast corner of the northeast quarter of Section 104, I.-G.N. Survey, Block 7. It is approximately 1¾ miles north of No. 1 and No. 3.

Rycade Oil Corporation tests on the Sullivan land are at considerable distance from those on the Chittim. Sullivan 1 was located about five miles northwest of Chittim No. 1 and No. 3; and Sullivan 2 was located near Sullivan 1. Sullivan 3 was three miles northwest of No. 1 and No. 2. Sullivan 3 encountered 2,000,000 cubic feet of gas in the Glenrose limestone at 5125 feet, and later, deepened to 5486 feet, it bailed salt water, and was abandoned at that level early in February, 1929. Sullivan 4 is two miles south of Sullivan 1 and Sullivan 2, being in Section 112, Block 1, I.&G.N. Survey.

Oklahoma--Kansas Field Notes

WARREN BAKER, *Staff Representative, Tulsa, Oklahoma*

Decline in Oklahoma City Deep Well Continues

TULSA.—Continued decline in production of the Indian Territory Illuminating Oil Company and Foster Petroleum Company's Fee 1, C SE SE Section 24-11-3w, wildcat discovery producer of the Oklahoma City field, featured Oklahoma oil news of the past week. The rate of decline was lower than during the previous week, when the well commenced cutting and showing a spectacular drop.

Its owners placed it on gas pressure, but this failed to increase the flow, or check the decrease. A week ago the well made 3447 barrels and its last gauge was 2448 barrels flowing natural, against 2588 barrels the previous 24 hours on gas. This rate of decline has been about an average for the entire week. The well is cutting one per cent. water and 1½ per cent basic sediment after treating.

Importance of the decline cannot be estimated at this time. It has, however, caused many oil men to lower their sights for the field. The position of the well on the pay structure cannot be known until more completions have been made during early May.

Since December 4, 1928, the well has produced nearly 500,000 barrels of oil.

There is a possibility that the Indian Territory Illuminating Oil Company and Foster Oil Company interests may decide to deepen the well should its production go off a great deal further. This would be very valuable in determining the producing horizon. If the well is in the Hunton lime at 6498 feet, it is running very low and the chances are small for finding Wilcox sand production if that formation is not found high. If in the the Simpson sand, it is not probable that it would find big Wilcox production, since it has been a general rule that when big Simpson recovery is found, little or no Wilcox oil lies beneath. If in Siliceous lime as the majority now seem to think, it has passed the Wilcox horizon, (and it was missing entirely).

Sunday Shutdown Efforts Increase

Another high ranking development in Oklahoma of the past week was the larger curtailment of production on Sunday. The most successful Sunday yet enjoyed was experienced when 95,891 barrels reduction was shown, bringing Seminole down to a new low for the year. Every field in the Seminole region showed a marked drop in recovery as a result of some companies taking most of their wells off production. The success of the Sunday shutdown idea is very encouraging to those attempting to correct the over supply of crude by this method.

Of the 95,000-barrel decline in production at Greater Seminole over the week end, 82,703 barrels can actually be accredited to the Sunday shutdown. Twelve companies, which is the largest number to enter into agreement here, participated in the shutdowns.

Combined total production of the 12 companies on March 10 was 128,728 barrels compared with but 36,025 barrels on March 11.

That no injury is being done to the shut-in wells is shown by the same wells doing 134,685 barrels during 24 hours ending March 12, an increase of 5,069 barrels over March 10. This increase has occurred each time the Sunday plan has been used.

Companies shutting down last Sunday were as follows:

Prairie Oil and Gas Company, Barnsdall Oil Corporation, Shaffer Oil and Refining Company, T. B. Slick, Incorporated, Continental Oil Company, Magnolia Petroleum Company, Mid-Continent Petroleum Corporation, Champlin Refining Company, Indian Territory Illuminating Oil Company, Tidal Oil Company, Producers and Refiners Corporation, and Atlantic Oil Producing Company.

Greater Seminole production during 24 hours ending March 10 and 11 show the difference that the Sunday shutdown made. The figures are as follows:

	Mar. 10	Mar. 11
Little River	75,781	59,615
Maud	33,025	26,533
Mission	33,961	29,596
Bowlegs	34,610	24,867
Earlsboro	53,569	33,704
Seminole Proper	33,160	20,317
Searight	8,774	8,337
St. Louis	97,550	71,530
Total	370,370	274,499

Some of the companies took all of their wells off production, while some produced a few of their wells in which water might give trouble.

Completions at Seminole Offer Little

A material letup in the number of Seminole completions was noticeable during the week.

Twin State Oil Company's Calvin 2, NWc SW Section 7-8-5, first deep producer in western Maud, was plugged back one foot to determine if the water was coming from the bottom of the hole in the Simpson sand. It swabbed 205 barrels the next 24 hours.

Amerada Petroleum Corporation and Marland Production Company's Calvin 2, SWc NW Section 7-8-5, north offset to the Twin State Oil Company's well, found the Wilcox sand at 4350-63 feet, with 3000 feet of fluid. It bailed about three barrels of oil per hour from the Simpson sand, with the water coming from the Wilcox.

The west edge of Maud was further defined by Gypsy Oil Company's Hartman 1, NEc NW NE Section 12-8-4, farthest west location. This well had 250 feet of water from the top of the Simpson sand at 4608 feet.

Sinclair Oil & Gas Company's Lewis 1, NW SW SW, Section 6-8-5, northwest edge of western Maud, had the Wilcox sand from 4386-4409 feet and was plugged back four feet, where it swabbed 25 barrels.

The southeast extension to Earlsboro field evidently will be quite small since Magnolia Petroleum Company's Gilliam 3, SE NE SW, Section 13-9-5, encoutered water in the Wilcox sand at 4343-56 feet. It is a diagonal offset to the southeast from the extension discovery well. Gypsy Oil Company's Wisner 2, SW NE, Section 13-9-5, had 1500 feet of water from the Wilcox sand 4624-34 feet, and is being abandoned.

In the north extension at St. Louis field, T. B. Slick's Davis 3, NW SW NE, Section 18-7-5, south offset to that operator's discovery Wilcox producer, has a hole full of water in the Wilcox sand from 4173-75 feet. Sinclair Oil & Gas Company's Nesbit 1, NE SE NW, Section 18-7-5, drilled to 4273 feet in the Wilcox and filled up

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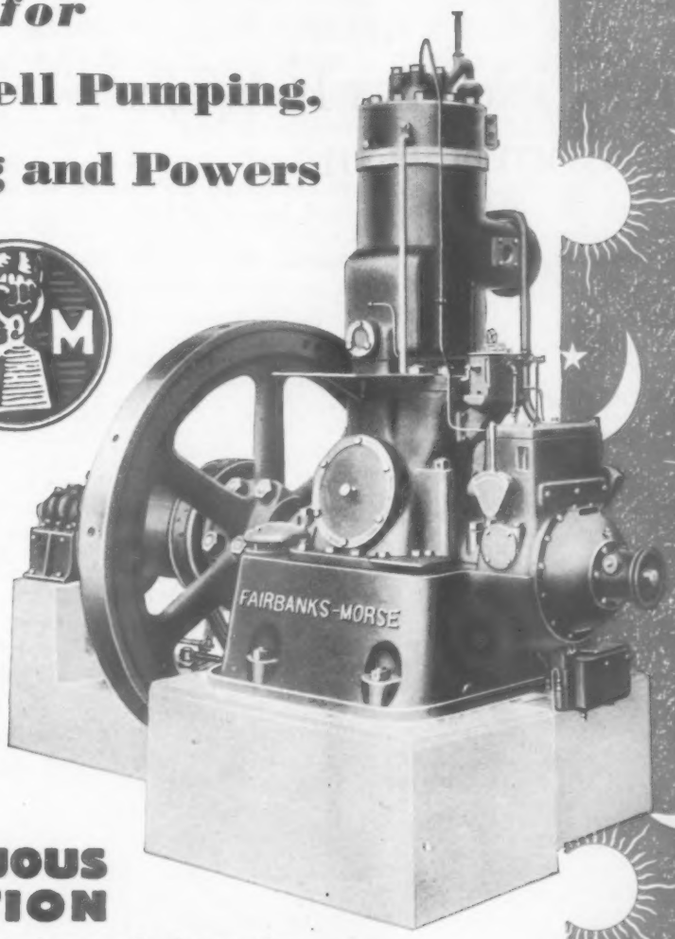

CONTINUOUS OPERATION

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with water. It is doing 55 barrels through a bradenhead from the Simpson sand.

Sinclair Oil & Gas Company's Davis 1, NW NE SW, Section 7-6-8, midway between the Wewoka and Allen fields, is producing 21 barrels per hour. It was originally reported in the Hunton lime, but samples of the producing pay showed it to be the Viola lime. It had the Sylvan at 4042 feet and the Viola at 4045 feet, according to a corrected report.

Holdenville Gas Field

Tulsa—Two new gas wells have been found in the Holdenville gas field, west of Holdenville, in Hughes County. Independent Oil & Gas Company's Jackson 1, C NW SE Section 11-7-8, is making 38,000,000 cubic feet with a rock pressure of 1030 pounds from the Gilcrease sand at 3027-30 feet.

Empire Oil & Refining Company's Fish 1, SE NE Section 19-7-8, encountered 1,000,000 feet of gas at 1300 feet; it was ignited and the rig burned down.

Valley Center Field Has 16 Wells Near Completion

TULSA.—Valley Center, Sedgwick County, Kansas, has 16 wells below 3000 feet, or due for immediate completion. These tests should tell the possibilities of the area developing into a major one, and to a large extent outline the producing limits. Operations in the district number 111, of which 78 are drilling, four rigging up, eight rigs are being built, and tools moved in to nine locations.

Two completions at Valley Center sent production to a new peak of 11,280 barrels during the past week, with 13 of the 14 producing wells making the output. The next day production slumped about 1000 barrels due to one well going dead.

Marland Production Company-Gypsy Oil Company-Bu-Vi-Bar Petroleum Company's Branch 1, C SE SW Section 6-26-1e, produced 1411 barrels the first 24 hours from Simpson sand at 3375-81 feet. The next 24 hours it made only 178 barrels of oil and considerable water. It then went dead and the hole filled up with water. The well is a diagonal southeast offset to Mary Jane Oil Company's Fitch 1. Water soon made its intrusion upon this well, also. Fitch 1 is now producing around 580 barrels daily with 20 barrels of water. The appearance of water in this part of the field, which is along the central part of the east side, is leading many to believe that production will not be found much farther east, and that the best part of the field lies to the west of this spot.

Marland Production-Gypsy Oil-Bu-Vi-Bar Petroleum Company's Emerich 1, CWL SE SW Section 6-26-1e, west offset to Branch 1, produced 1310 barrels the first 24 hours from the Simpson sand found at 3428 feet and penetrated to a depth of 3433 feet.

These two wells were drilled with rotary tools and are the first rotary operations to be completed in the field. They were started during the latter part of January. The success of rotary operations in the pool is attested by the quick completion of these wells.

Skelly Oil Company and Davis' Wilson 1, NE NW NE Section 1-26-2w, one-quarter of a mile south of the Aladdin-Slick et al's Smyser 1, filled up better than 2000 feet with oil in eight hours, but was showing little increase later. It is thought to be good for several hundred barrels. It is running about 60 feet higher than the Aladdin-Slick producer, which is producing around 170 barrels of oil and cutting 22 per cent.

Probably the first well to be completed on the townsite of Valley Center will be G. L. Miller et al's Valley Center 1, NW SW Section 31-25-1e. This test is one-half mile northeast of the Aladdin-Slick et al well. It is running approximately 25 feet higher on the top of the chat than the Aladdin-Slick et al. The Miller test found the chat from 3074-84 feet.

Northwest of the field, Connell et al's Cross 1, NEc Section 27-25-1w, has reached a total depth of 3652 feet, where it will plug back to the Kansas City lime and test a show. This development carries out the early prediction of geologists that wells in this sector would not produce.

H. H. Patton et al's wildcat in the NEC Section 22-25-1e, northeast of Valley Center a few miles, and east of the Marland Production Company's Goodrich 1, in Section 16-25-1e, has passed through the Mississippi lime and will soon be ready for the Goodrich pay horizon. It is but three feet lower than the Marland Production Company's producer on the base of the Mississippi and seven feet lower than the Barnsdall Corporation's Samuels 1, Section 24-25-1e. This test will be closely watched as it nears the Goodrich.

Harvey County Into Limelight

Harvey County, north neighbor of Sedgwick, and where considerable development is underway as a result of the Valley Center and Goodrich areas in Sedgwick County, came to the front during the past week with a commercial gas well, which is the county's second oil or gas completion of commercial importance.

Shell Petroleum Corporation's wildcat in SW NE SW Section 11-23-2w, found the chat at 2954-55½ feet. The eight-inch casing was cemented at this depth and when drilled out the well blew in for 43,400,000 cubic feet of dry gas. This well is one-half mile west of the original well on the structure, which is also a gasser.

A number of locations are starting in this vicinity and with the completion of the new Shell Petroleum Corporation well it is likely that they will be doubled. The new gas field is on a direct line between the McPherson field and the Valley Center pool, but many townships from either.

R. F. Garland's Cox 1, NEc Section 27-24-1w, just over the Sedgwick County line into Harvey, topped the chat at 3110 feet and at 3115 feet is fighting a cavey hole. The chat was found 21 feet lower than the dry hole in NWc SW Section 30-24-1e. It is generally expected to be a failure, which is important because of its relation to the Goodrich and Valley Center districts.

Austin Drilling Company and Tidal Oil Company's Neiman 1, SEc SW 21-24-2e, once a favorable wildcat test, found water in the Siliceous lime from 3445-48 feet. It had the Wilcox sand from 3410-25 feet, with green shale from 3425-45 feet, where it entered the Siliceous. This test is one of the few north of Valley Center to penetrate the Siliceous lime.

Late Important Developments in Western Kansas

J. V. McKenna's wildcat in SEc NE Section 10-33-38w, Stevins County, in the southwestern part of the state, has found 3½ million feet of gas at 3579-3636 feet. This well is north of Texas County, Oklahoma Panhandle, which lies north of the Texas Panhandle. Several important gas developments have been made along the Oklahoma-Kansas line, but this test carries the play farther west.

Jones & O'Haver have spudded their rank wildcat test in Section 15-28-1w, southwest of Pratt, in Pratt County. It will be a deep test and the first one for the region, therefore of great interest.

Leasing In McClain And Canadian Counties

Tulsa.—The leasing campaign in McClain and Canadian Counties in the Oklahoma City district continues to be very brisk. Many major companies are participating, including Phillips Petroleum Company, Marland Production Company, Minnehoma Oil & Gas Company, Continental Oil Company, Skelly Oil Company, Carter Oil Company, Shell Petroleum Company and Independent Oil & Gas Company.

Indian Territory Illuminating Oil Company has finished taking another block in Canadian County. It is in township 12-1w, South of El Reno. About a year ago Ramsey Petroleum Corporation drilled a 6000 foot test there.

Sunray Oil Company has taken some acreage southwest of Okorche in township 14n-18w.

A. H. Warren, new general manager of the Houston Gas & Fuel Company, arrived in Houston recently to assume the duties of his position.

E. W. McHenry has recently been appointed as district sales representative, located at Houston, by the Reading Iron Company. This appointment was effective March 1.

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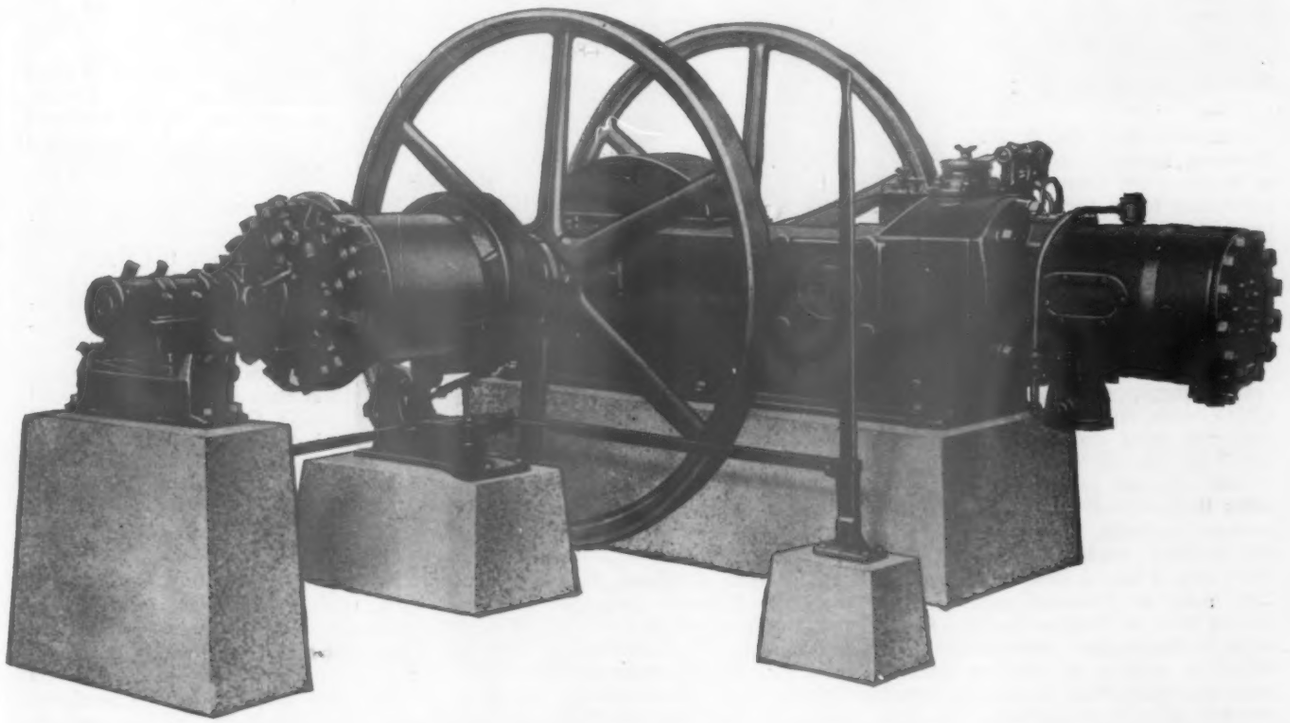

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Say you saw it in The OIL WEEKLY

PERSONAL MENTION-MEN YOU KNOW

James W. Taylor, representative of Gulf Production Company in the San Antonio district, has recently accepted a position with the Louisiana Land office at Baton Rouge, to work with Fred J. Grace, register, in handling the state's oil and gas problems. Taylor will be assigned to the fields of Louisiana, handling field problems, but will maintain headquarters at the state land office at the State House, Baton Rouge.

A. I. Leversen, chief geologist of the Independent Oil & Gas Company, has become president of the Tulsa Geological Society, as a result of Frank A. Herald resigning so that he might move to Fort Worth, Texas. Mr. Leversen was originally first vice-president.

Hugh M. Maulding, assistant vice-president in charge of the southwestern division of the Pure Oil Company at Tulsa, has resigned to become special assistant in the land department of the Indian Territory Illuminating Oil Company at Bartlesville.

It is understood that E. W. Marland, formerly president of Marland Oil Company, is perfecting plans for organization of a new oil company. It is thought that many of the former Marland Oil Company officials may be connected with the new company.

Lon Riggs, who won a nation-wide reputation as a writer of short stories dealing with life in the open West, bids fair to have as much success as an independent producer. Riggs quit the writing business two years ago to take a fling at wildcatting and made a 50-barrel well of his second test in Rogers County, Oklahoma. Since that success he has drilled a number of shallow wildcat holes around Claremore, and developed commercial gas production. He got most of his oil field education touring Oklahoma fields to write about oil, and for several years was oil editor of the Stroud, Oklahoma, Democrat.

Ray Uhlman, formerly with the pipe line division of the American Petroleum Company in West Texas, is now in charge of the pipe line system and tank car rack being operated by the Petroleum Pipe Line Company of Texas in the Salt Flat field.

R. S. Haseltine, vice president and general manager of the Guiberson Corporation, with headquarters at Dallas, is spending several weeks in California, recuperating from an attack of influenza.

F. L. Cotterman has been appointed manager of the Houston branch of Whealton & Townsend, Inc. His offices are 1415 Fannin street.

ERNEST J. NICKLOS
Vice-president and General Manager of Marland Production Company

C. Wayne Stephens, formerly with the Lucey Products Corporation, Houston, is connected with the Thrift Corporation in the capacity of general manager. Mr. Stephens succeeds A. L. Volmer in the management of the company. Headquarters of the Thrift Corporation is located in the Marine Bank Building, Houston.

R. H. Reese, planning committee member for the Atlantic Oil Producing Company, has transferred his headquarters from Cisco, Texas, to the Dallas general offices of the company. H. M. Staggs is also a member of this committee, which is primarily an efficiency department on general oil field practices.

E. W. Clark, vice president of the Union Oil Company of California and formerly president of the American Petroleum Institute, is making an extended pleasure tour of the Eastern States, the first vacation he has enjoyed for more than two years.

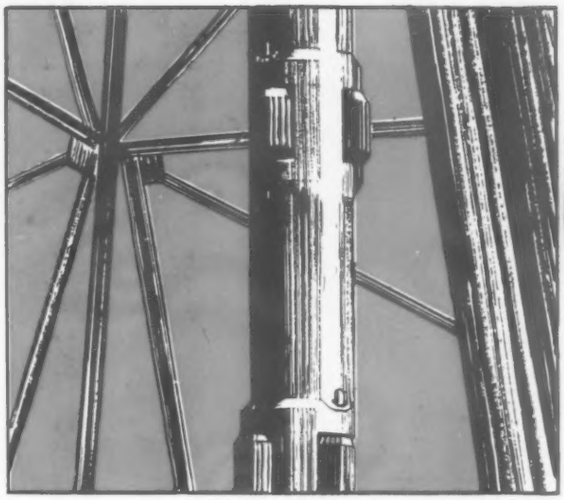
W. H. Callan, vice president of the Chicago Pneumatic Tool Company, is visiting in California.

J. Edgar Pew, vice-president Sun Oil Company, returned to headquarters at Dallas last week after spending the past six weeks making an inspection tour of the company's producing properties in Venezuela.

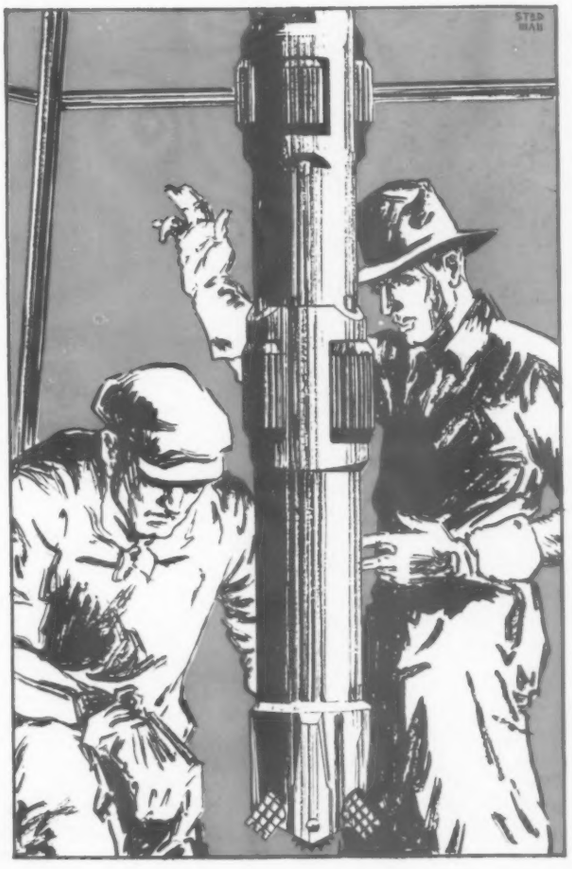
W. L. Walker, chief geologist of the Empire Companies at Bartlesville, Oklahoma, for more than three years, has gone to California, where he will be in charge of special work for the Cities Service Company on the Pacific Coast. John M. Nisbet, assistant geologist, will succeed Mr. Walker as chief geologist of the Empire Companies. Nisbet has been with the Empire geological department for 10 years.

Fred W. Eastman, assistant manager of the land department for the Gypsy Oil Company, in Tulsa, has resigned to enter the oil investment business for himself. He has opened offices at 1303 Philtower building. Eastman has been associated with the Mid-Continent oil industry for the past 20 years, both with the Prairie Oil & Gas Company and Gypsy Oil Company, and as an individual operator.

Denver Colo.—A number of changes have recently been effected in the personnel of the Texas Production Company's Denver offices. J. A. Bermingham, recently stationed at Fort Worth, has been made vice president and general manager of the western division, and A. E. Wilson, formerly assistant secretary and treasurer, has been made assistant general manager. Y. A. Land of the legal department at Houston, has been made head of the Denver law offices, and Edward M. Freeman has been promoted to the company's New York offices. L. J. Bailey, formerly in charge of operations in the Panhandle division, has been made district superintendent of the Rocky Mountain region.



A GOOD IDEA



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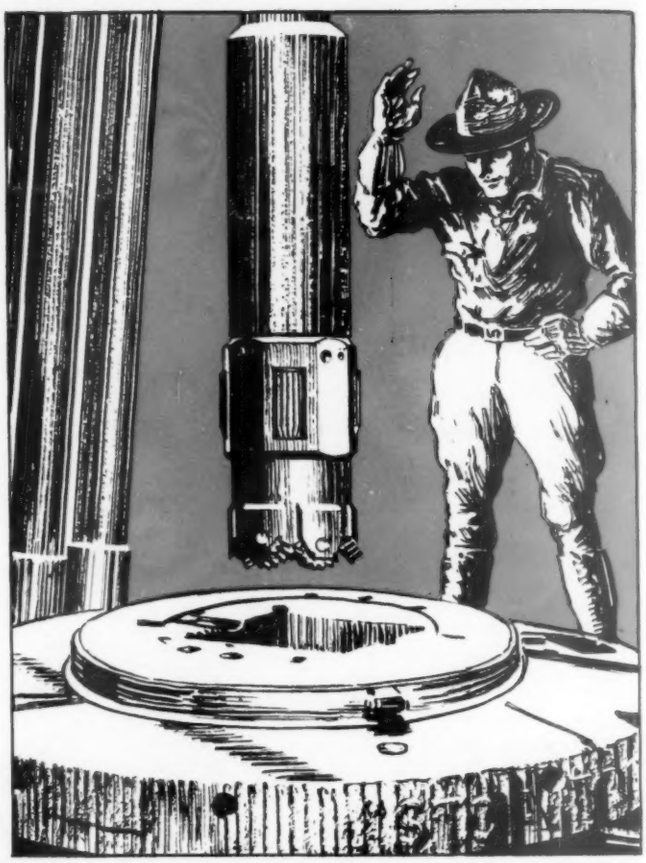

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News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Limitation of Deep Drilling Still Debated at Santa Fe Springs

LOS ANGELES. — Peak production from the Buckbee zone at Santa Fe Springs has definitely passed, and if it is possible to halt development of the still deeper sands, the field will drop rapidly and pass out of the critical class within six months. Regardless of the steps taken toward forcing a suspension of deeper drilling, there is ample reason to believe that the peak for the year has been reached.

A complete survey of the field during the week showed that the Buckbee zone had made its best showing and that the decline is so rapid that there is hardly a chance for a new peak to be established. A trend downward was more definitely in evidence during the week than at any time in the past and was caused by the few completions, the continued decline of the 105 deep zone wells and the outright failure of several flowing wells near the edge of the field.

The status of the O'Connell and Clark zones remains in doubt, with two more weeks needed to tell whether they will assume their places as major producing sands. The depth of these formations, the time required to reach them, the expense of drilling and the possibility of mechanical troubles have combined to make their development much more of a problem than the drilling of the Buckbee zone.

Hurried committee meetings have taken place to consider halting further deevlopments, but little has been accomplished. Nearly every producer professes to be profoundly interested, but all the while a concerted effort is being made to develop the lower zones. The outright failure of a large number of wells in the Buckbee zone has left a slightly antagonistic feeling toward a complete halting of extremely deep drilling. There is no need of more oil at this time, but the desire to retrieve losses outweighs the desirability of a shut-down and deeper drilling continues. It is understood that at least 80 per cent. of the operators should sign an agreement to stop drilling, before drastic steps are taken. Up to this time, the number of signers is not sufficient to justify immediate action.

If nothing is done to stop the development of all zones below the O'Connell, the industry is chiefly interested in what will take place when the formations are reached with a large number of wells. Regardless of the number of wells completed in the O'Connell and Clark zones, it is doubtful whether the peak established recently in the Buckbee will be equalled. The decline of the Buckbee zone will carry production a long way down before it is possible to counter with O'Connell and Clark zone wells. In the meantime, a rapid decline in the first wells completed in the deeper zones will have been felt. The difficulty in completing these deep wells will also have a telling effect on production. Summarized, it seems safe to state that while production will jump upward later in the year, it will fall short of the 200,000-barrel mark.

It has been established that it will be possible to produce with one water string both the O'Connell and Clark zones near the center of the field, and this fact may change the situation considerably. By doing so, much larger wells and a slower decline are to be expected. Under ideal conditions, it may be possible to produce from 700 feet of sand.

Associated Oil Company is running a string of 4¾-inch casing to 7802 feet in Clark 2, the discovery well in both the Upper and Lower Clark zones. If successfully landed, it will be the longest shutoff string ever run in any field. The casing will be the customary 16-pound weight, but special couplings have been ordered for the upper part of the string. These extra-heavy connections will be used for about 4000 feet. The well was drilled to 7922 feet, having cut 120 feet of oil sand and shale. The last core taken—a 20-foot length—showed a recovery of almost 100 per cent. The formation was about evenly divided between shale and oil sand. If the well flows on production test, it will be the deepest flowing well in California. When coring was stopped, the well had more than 3400 feet of open hole below the shut-off, above the Meyer zone. A commercial producer at this depth and at such a location would be of great importance to drilling wells near the center of the field. Strictly an edge well, Clark 2 will prove a large acreage if successful. If the well is a failure in the Lower Clark zone, it will be plugged back for a test of the Upper Clark sand.

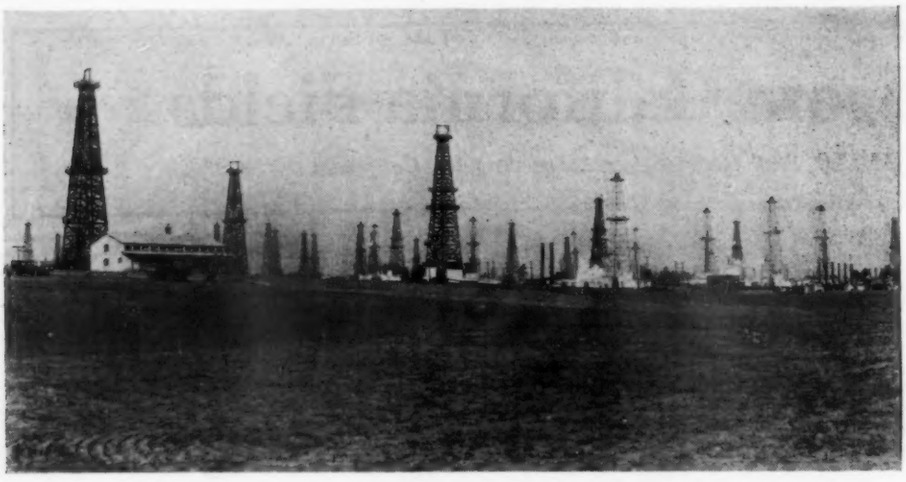
Several Tests Due

Tests within a few days of several wells in the O'Connell zone should clear up the mystery surrounding this promising formation. George F. Getty's O'Connell 19, the discovery well, is flowing 1200 barrels of oil and about the same amount of "free" water. Adjoining wells are expected to tell the story. George F. Getty's O'Connell 18 is coring below 6700 feet, in the extreme lower part of the formation, while O'Connell 21 has passed out of the O'Connell sand into the Upper Clark zone. This is one of the most important tests in the field and confirms the statement made last week that there would be no break between the two zones near the apex of the structure. The log of this well fails to reveal a suspicious streak of sand between the two formations which might contain water and make it necessary to run an additional shut-off casing. O'Connell 21 is now coring below 6900 feet. The O'Connell zone looked good all the way down and it may be possible to include both zones in the final test.

Several key wells will be tested within the next two weeks, but until after that time it will be difficult to place a value on any one of the deeper zones.

Associated Oil Company will test Fulton 3 in the Upper Clark zone at 7077 feet. This well is located more favorably than either of the two wells which found the formation ahead of it. The final shut-off will be made at 7060, the cement drilled out and more hole made if necessary. This well is located in the northwest sector, but only a short distance from the maximum producing line of the Buckbee zone.

Richfield Oil Company has been unable to test Elliott 2 in the Upper Clark zone, due to failure of the ce-



Lawndale

ment to set properly. The well is bottomed at 7195 feet, with the water string cemented at 7110 feet. The success of this well would prove a large area in the zone.

Another company is bidding for laurels in the Upper Clark zone, the California Eastern Oil Company having reamed to cement 4¾-inch casing at 6930 feet in Santa Fe 2, which failed to find the Buckbee zone productive. It is one of the three tests regarded as critically important to the value of the zone.

Standard Oil Company has shut down seven wells in the south and west sectors, pending developments in the district. The company has one active test in each of the areas, it not being necessary to carry several wells toward one doubtful formation at the same time. The active wells are expected to prove both the O'Connell and Clark zones.

A number of new locations have been staked on the east side of the field, where the Buckbee zone has proven especially satisfactory. These wells are destined for any of the deep zones which show the most promise at a later date.

Union Oil Company has taken a number of shallow wells off production and will inject gas into them, the surplus gas from the Buckbee and Nordstrum zones to be used. This sets a precedent which may have a far-reaching effect.

A few Buckbee zone wells have gone partially or wholly to water, while a still larger number have been placed on the pump. The producing limits of the zone have been well defined, being much smaller than the Meyer sand.

The best completion of the week was the General Petroleum Corporation's No. 146-A, which came in with an initial production of 5100 barrels from 5925 feet. The well was drilled to 6038 feet, but is was necessary to plug back to avoid water. The oil was 33 gravity and showed a cut of 3.6 per cent.

The re-appearance of two wells which were heralded far and wide in the Buckbee zone told a sad story and indicated that the southwest part of the field had proved anything but satisfactory. The were the Shell Oil Company's Slusher 12, the second completion in the Buckbee zone, and The Texas Company's Matern 2-7, the third completion and one which rapidly went to water after producing at the rate of 4000 barrels for several weeks. Slusher 12 was re-completed at 5757 feet, with an initial production of only 125 barrels. The well had been plugged here and there, without improving production. Matern 2-7 was plugged back to produce in the Meyer zone at 4580 feet —a very unimpressive ending for a well which was at one time the sensation of the Buckbee zone.

The Texas Company also completed Matern-3-10 in the Meyer zone, although the well was originally intended for the Buckbee sand. Production was small, the fact that the well was not carried to its original objective being more important than its yield.

Only seven completions were recorded during the week, the average initial production having been 1900 barrels. It was the smallest group of wells and the lowest average initial production registered for two months.

Field production dropped below 190,000 barrels, the deep sand accounting for 165,000 barrels and the shallow wells totaling about 24,000 barrels.

Wells drilling below the Buckbee zone have increased to 36, with several more to follow. Active drilling wells total 174, with active locations totaling 24.

Trend of Production at Lawndale Uncertain

Los Angeles. — Deeper drilling in more than a score of wells in the Lawndale field failed to give a single clue as to the trend of production—if there is to be a trend. With three wells drilling below 6000 feet, one of which has passed 6200 feet, the mystery of the much-sought zone which is now producing in the discovery well remains wholly unsolved. Several wells have cut thin streaks of oil sand, but only the Pacific Western Oil Company has considered testing the broken formation. The company is running a string of casing in Howland 1, which has developed the best showings of the several wells approaching 6000 feet. Standard Oil Company's Vance 1 is drilling at 6200 feet, the formation running to hard sand and streaks of oil sand. Some geologists believe that the field will extend southeast of the discovery well, in which event the present wave of drilling is misplaced. Fully 50 wells are drilling for the sand which was expected above 6000 feet, and their failure to find production will result in a loss of several million dollars.

Elwood

Santa Barbara, Calif.—Continuing its success in the Elwood field, Barnsdall Oil Company and Rio Grande Oil Company has completed Doty 3 with an initial production of 4000 barrels from 3685 feet. This well is the seventh consecutive producer completed since the field was discovered eight months ago and brings production to 27,000 barrels. Gas production was about two million cubic feet. Doty 3 is the deepest well completed and extends the field several hundred feet down the coast line.

In Elwood Community 1, the joint operators face their first failure, although there is a chance for extremely deep production. The sand which produces on top of the structure was found below 4000 feet in this well, but it failed to produce at a commercial rate.

There were no new developments in the outpost wells, which are trying to extend the field in at least two directions. J. E. O'Donnell has suspended operations in Campbell 1 at 5500 feet. Petroleum Securities Company is making a water test in Storke 1, which was drilled to 5035 feet. Several other shallower wells are shut down awaiting developments.

Kettleman Hills

Coalinga, Calif. — With preliminary preparations largely completed, actual drilling operations in the Kettleman Hills field have shown a sharp increase, Twenty wells have been started and a dozen locations are awaiting the necessary equipment. The Middle Dome has come in for fresh attention and is expected to be the center of operations for several companies. The discovery well is located on the North Dome and it was here that the greatest activity centered.

General Petroleum Corporation will test the water shut-off at 6510 feet in

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Oeschner 2, the deepest drilling well and probably the next to reach the producing sand.

Standard Oil Company has encountered a tough shale below 4500 feet in Vance 1 and is not making the progress expected. This well reached 4000 feet in record time. Located only a few hundred feet from the discovery well, Vance 1 is expected to reveal some interesting facts concerning the theory that the first producer may have been a freak.

George F. Getty has passed 4150 feet in Armstrong 1, Section 4-22-17, also an offset to the discovery well.

Marland Oil Company has become active, with three drilling wells on the North Dome. All are within a stone's throw of the discovery well. This company originally owned the lease on which the first well was completed.

Carpenteria Wildcat

Carpenteria, Calif. — An attempt to test the Continental Oil Company's Franklin 1, an important wildcat near this place, resulted in disaster, one man being instantly killed, another fatally injured and two others seriously injured, when the flow line broke anchor and whipped around from the pressure. In attempting to circulate water to replace the heavy mud in the hole, the well began to flow. The pressure was suffcient to break the anchor on the flow line, which was also being held by the four men. The well flowed mud, gas and some oil before it was shut in immediately following the disaster.

No gauge was obtained on the casing, but it was high enough to endanger the entire Christmas tree during the time which the well flowed. More than 2000 feet of mud was in the hole when the well started flowing, indicating that it will be impossible to circulate with lighter fluids. The hole is being filled with barrite, preparatory to testing it through tubing.

The Carpenteria structure is located on the edge of the ocean, similar to the Elwood anticline, and apparently is a concentrated area rising up out of the Pacific Ocean. The well is bottomed at 3990 feet.

Cat Canyon

Santa Barbara, Calif. — The first completion in the Cat Canyon field for several months, Winan Oil Company's No. 3, increased field production 250 barrels and reduced drilling wells to two. The oddity of this field has attracted more attention than its importance, due to the unusual conditions under which oil is produced. The gravity of the oil ranges from nine to 14 and in cold weather it is often necessary to rake the crude to handle it. Gas lift methods have been employed profitably in the area, despite the viscosity of the oil.

Rincon

Ventura, Calif.—Streaks of oil sand have been found around 7200 feet in Richfield Oil Company's Hobson Fee 1, now the only active deep test in the Rincon field. These showings are not considered significant but they give the well another chance at still deeper production.

General Petroleum Corporation has abandoned hope of extremely deep production in Hobson A-3, having plugged back from 6650 feet to 4500 feet for a production test. This well failed to develop as favorable showings as either of Richfield Oil Company's deep wells.

The Rincon field, which a little more than a year ago offered unusual promise, now falls definitely in the mediocre class. The 26 producing wells are yielding only 3500 barrels, with little likelihood of an increase.

Potrero

Los Angeles.—Associated Oil Company has re-cemented Potrero 1, after an unsuccessful production test at 3440 feet. No one of the several wells drilled in the field has produced from this shallow sand. The company has placed Pacific-Southwest 1 on production at 5915 feet, with an initial production of 240 barrels.

Max Pray, independent operator, has staked a location near Aerick and Prairie Avenues, in the City of Inglewood, with a view of extending the Potrero field to the northwest.

Ventura

Ventura, Calif. — The only completion of the week in the Ventura field — Shell Oil Company's Taylor 31 — showed a cut of 40 per cent. and subsequently failed to make the customary improvement. The well came in with a production of 1200 barrels from 6585 feet, but the high percentage of water created a problem difficult to overcome. The 8⅝-inch water shutoff was attempted at 6050 feet, but there is some doubt whether it proved effectime.

A survey of the field shows a total of 55 drilling wells, of which several are being deepened. This is a large number for a conservatively developed field. Production is not expected to show an appreciable decline during the remainder of the year unless further curtailment is practiced.

Long Beach

Los Angeles. — Long Beach showed a flash of its old time performance during the week, accounting for more than 10,000 barrels new production from 11 wells. The field total jumped more than 3000 barrels as the result of the completions. The best well of the week was the D'Angelo Oil Company's No. 4, which came in with an initial production of 3200 barrels from 7070 feet. The oil was 30 gravity and showed a cut of only two-tenths of one per cent. It was one of the cleanest wells completed since January 1. Shell Oil Company's Patton-Wilson was completed with a production of 2650 barrels, while the same company's Rose 2 came in with a flow of 1250 barrels. Both wells showed a cut in excess of 10 per cent. Dabney-Johnston Oil Corporation completed Nos. 18 and 27 with initial yields of 750 barrels and 600 barrels, respectively. The former was completed at 7007 feet, while the latter was finished in the shallow zone at 4790 feet. Shell Oil Company completed Goddard 7 as a gasser at 7097 feet.

Gas Waste Continues

Los Angeles.—Natural gas production in the Santa Fe Springs field has reached a total of nearly 500 million cubic feet, or about 100 million cubic feet more than engineers estimated the production would be at the actual peak. Although production of oil from the Buckbee zone failed to reach the original estimates, the flow of gas more than offset the deficit, when volume alone is considered. The average gas production of the 100 deep sand wells is almost five million cubic feet, while several wells are making about 20 million cubic feet. Gas plants are unable to handle a large part of the field total and the gas is being blown into the air. Gas distributing companies are taking enormous quantities of dry gas from the plants, but with a surplus at Long Beach, only a limited amount can be marketed.

Los Angeles Banquet

Los Angeles. — The annual banquet of the Chamber of Mines and Oil, held in the Sala D'Oro of the Los Angeles Biltmore Hotel, Thursday evening, March 7, was attended by 1400 men from all branches of the industry. Gurney E. Newlin, president of the American Bar Association, and R. A. Broomfield, president of the Chamber of Mines and Oil, were the principal speakers.

Tulsa Is Named Site of A.I.M.E. Meet March 11

Tulsa. — The Mid-Continent section of the American Institute of Mining and Metallurgical Engineers will meet in the Tulsa Chamber of Commerce Building March 11, according to an announcement early this week. One of the leading features of this meeting will be a discussion of several outstanding papers presented at the annual meeting of the American Institute of Mining and Metallurgical Engineers two weeks ago in New York City. These papers will be re-read at the Tulsa sectional meeting.

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Louisiana--Arkansas Field Notes

New Area Opened for Production In Champagnolle Field

SHREVEPORT, La.—Champagnolle took a new lease on life during last week when Ohio Oil Company's Raulston 1 in Section 12-17-14 was completed at 3037 feet as the largest well ever completed in that district. The well flowed at the rate of 10,000 barrels daily for the first hour after completion and was then partly choked in. The oil was free of water.

This well opens up a part of the Champagnolle area which has heretofore been non-productive. It is a half mile southwest of production in the south edge of the northeast extension of the field in Section 7-17-13 and is approximately two miles northeast of production in Section 15-17-14, which is the southern edge of the Champagnolle field proper.

Aside from the Ohio Oil Company's Raulston well, on which a 24-hour gauge has not been secured, Arkansas failed to add a producer last week. H. L. Hunt's Gregory 6 in Section 15-17-14 of Champagnolle tested dry and was abandoned at 3401 feet. In the Ouachita County part of the old Smackover district, Sam Sklar, Trustee, tested dry and abandoned Langley 1 in Section 19-15-15, at 2060 feet. Calgo Oil Company's Primm 1 in Section 9-18-17, a wildcat in the Tubal district of Union County, also tested dry and was abandoned at 4385 feet.

Humble Oil & Refining Company, which has the largest production in the shallow Nevada County field, tested dry and abandoned a deep test in that area during the week. This was P. F. Hein 2 in Section 1-14-21, which was abandoned at 3730 feet.

Two Producers Completed

Two small producers in Pine Island, Caddo Parish, furnished the only two gauged producers completed during the seven-day period in the Shreveport area. Falcon Oil Company completed Muslow 2 in Section 29-20-15 at 2327 feet making 40 barrels. C. H. French added a 15-barrel producer in Muslow 4 in Section 31-21-15, at 1689 feet.

The Monroe gas area furnished two gas wells. Stovall Drilling Company completed Etheridge 1 in Section 22-20-4e, Morehouse Parish, at 2147 feet as a gas well. It made 41,720,000 cubic feet. In Union Parish, Industrial Gas Company's Mrs. M. E. Hill 3, in Section 9-20-3e, was completed at 2177 feet making 2,500,000 cubic feet.

The Panola County gas field in East Texas recorded two gassers, Nemours Corporation's Brumble 4 making 5,000,000 cubic feet at 2265 feet, and Natural Gas Production Company's Roquemore 8 making 6,000,000 cubic feet at 2672 feet. In the same county, Eureka Natural Gas Corporation abandoned Becknell 1 at 2670 feet.

Dixie Oil Company's Gilbert 1 in Section 27-21-5w, Claiborne Parish, a deep test where several fishing jobs held up drilling around the 5000-foot level, was junked and abandoned at 5034 feet. Mid-American Petroleum Company, which has been shut down for several months on Yerger 2, a wildcat in Section 51-16-14e, Madison Parish, has abandoned the hole at 285 feet.

Fifteen new locations were announced during the last seven-day period.

Two of the week's locations were for Arkansas. E. L. Foster and associates made location for Smith 1, in NW SE of Section 8-16-17, a wildcat in Union County. Helena Oil & Gas Company made location for a wildcat test, Pickler 1 in Section 19-19-22, Garland County. In the latter county, Claywood Oil Company announced plans for resuming drilling an old test, Malvern Lumber Company 1 in Section 17-2-17, where operators are waiting orders at 1665 feet.

Resume Work on Test

In Union County Magna Production Company will go back into its El Dorado Realty 2, which was abandoned at 3238 feet. This test is east of production in the northeast extension of Champagnolle and is located in Section 8-17-13. In the Union County portion of Smackover, Shell Petroleum Corporation is arranging to cement Bilyew 1 in Section 9-16-15.

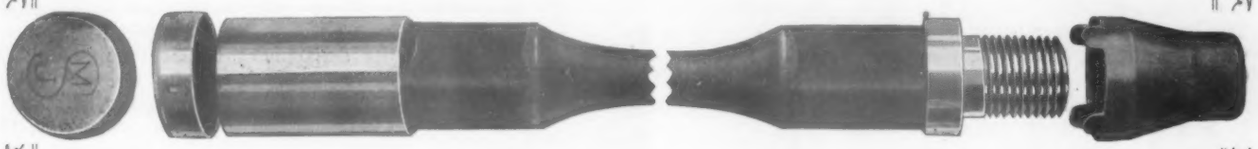
Louisiana furnished nine of the new locations. Palmer Corporation, which more than a week ago abandoned a test in East Carroll Parish, has made a location for another test in that parish, O'Brien 2 in Section 6-19-11e. Two locations were made in Caddo Parish: Falcon Oil Company's Muslow B-1 in Section 29-20-15, Pine Island, and Nemours Corporation's Ellerbe 1 in Section 18-15-12, LaHoward district, where a derrick is up. Two locations were made in LaSalle Parish: Arkansas Fuel Oil Company's Urania B-10 in Section 17-10-2e, where drilling is under way at 1300 feet, and H. L. Hunt's Urania 6, which is rigging up in the Little Creek extension of the field in Section 2-9-1e.

Monroe gas field obtained two new locations, both in Ouachita Parish. They are Magnolia Petroleum Company's U. S. A. 3 in Section 18-19-5e, and Fee 404 Number 1 in Section 14-18-4e. Magnolia also made one location in the Richland gas field, Sartor Company 1 in Section 5-15-6e. Louisiana Oil Refining Corporation will drill a deep gas test in Cotton Valley, Webster Parish, rigging up being under way at Gray 8 in NE of NW of Section 28-21-10.

East Texas accounted for four locations, two in Harrison County, and two in Panola County. Nick Barbare made location for Furrh-Friend A-1 in the J. Shory Survey of Harrison County and is down 1400 feet. In the same headright he has made location for Furrh-Fuller 1. In Panola County Calotex Oil Company's Acres 4, in the J. Womack Survey, is down to 2009 feet, where it tested dry with a slight show of gas. It will be deepened. Eureka Natural Gas Corporation has a derrick up for Gulley 4 in the James Matthews Survey.

Line to Sabine Well

Although R. L. Gay Trustee has obtained only one producer in a wildcat area of Sabine Parish, Louisiana, which was opened by Bowman-Hicks 2 in



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Section 14-7-14, 19 miles from nearest production, this well has 6000 barrels of oil in storage. The Standard Pipe Line Company has started work on a four-inch gathering line to the well. The line will be 19 miles in length and will join the Standard's trunk line at Oxford.

Gay's Bowman-Hicks 2 (new series) in Section 14-7-14, is drilling at 2300 feet and his Sabine Lumber Company 1 in Section 13-7-14 is drilling at 2650 feet.

With Claiborne Parish's wildcat tests reduced to two by the abandonment of Dixie Oil Company's Gilbert 1 in Section 27-21-5w, interest is still maintained in those remaining. Smitherman and McDonald have set liner and are washing hole at 4780 feet in Miller 1 in Section 17-23-8. El Dorado Chief Oil Company is drilling in sandy shale at 2930 feet in Baker 1 in Section 26-20-7w.

W. P. Wallace has resumed drilling in State 1 in 16-16-10, Bienville Parish, and is drilling at 2410 feet. D. C. R. Oil Company's Hunter Estate 1 in Section 17-19-14, Caddo Parish, is shut down in sandy shale at 2017 feet after testing a show of gas and salt water at 1940 feet.

V. E. Shaw has set eight-inch casing at 915 feet to test a show of gas in Voss 1 in Section 1-20-3w, Lincoln Parish. G. E. Carmatte cored shale with a show of oil at 1845 feet in Tugwell 2 in Section 21-22-1e, Union Parish.

In Johnson County, Arkansas Natural Gas Corporation obtained 7,000,000 feet of gas in a drill stem test in McPherson 1 in Section 10-10-24 from 2430-2437 feet. Eight-inch casing with packer was set at 2447 feet and the test is drilling with cable tools in hard lime at 2453 feet.

Ouachita Well Cores Sand

Louisiana Oil Refining Corporation is arranging a drill stem test for Manley 1, a wildcat in Ouachita County, located in Section 15-15-19, after a well-saturated oil sand was cored from 2168 to 2179 feet.

Gulf Refining Company bids fair to obtain its second producer or a gasser in the wildcat area of Shelby County, East Texas. Its Caraway 1 in the Patterson Survey has shown much gas. When the hole was cored from 3101 to 3115 feet in hard blue shale with streaks of lime and shells, a blow-out preventer was installed. This is considerably higher than oil production was obtained in Gulf's Pickering Lumber Company 1, 2½ miles to the southwest. This well was first completed making oil and gas at 3382 feet and was subsequently deepened to 3440 feet, where over 100 barrels of oil and about 4,000,000 feet of gas were obtained in a lime formation. However, the oil has practically disappeared, the gas being utilized to drill the Caraway test.

News of Rocky Mountain Area

Lea County Test Gets Oil Below Sulphur Water

Artesia, New Mexico.—Marland Oil Company got a pleasant surprise last week when on drilling through sulfur water encountered at 3943 feet in Lockhart 1, in Lea county, it encountered a showing of oil which developed a production of about 250 barrels at 3965 feet, according to estimate.

Some time ago, when the sulfur water was drilled into, the operators despaired of the ultimate propects of the well. When the water was bailed out and the well deepened, and then the oil showing became so good, the belief arose that the best production in the district may now be found below the water. This may lead many companies which have abandoned operations, to re-enter the field with the idea of deeper drilling.

Oil in Lockhart 1 has a gravity of 32 degrees. Most of the production is coming from porus lime at 3858 feet.

Atlantic Producing Company and the Shell Petroleum Corporation are reported to have recently purchased acreage in Lea County. The entire area is now dotted with gas wells which have been completed within the last year or so by Marland Production Company, California Company, Texas Pacific Coal and Oil Company, Texas Production Company, and other operators in an effort to find an extension of the prolific West Texas oil district, located about 50 miles to the south. A part of this gas is to be utilized upon the completion of the gas pipe line to El Paso. Most of it is shut in. It is believed that these gas wells will be the first to be deepened when the activity gets under way again.

Oregon Basin Price Suit Appealed by U. S.

Casper. — The federal government has appealed its case from the court of the district of Columbia to the circuit court of appeals for that district in the matter of The Texas Company of New York versus Roy O. West, secretary of the interior.

The Supreme Court of the district decided that the department of the interior had the right to fix a minimum or maximum price on government royalty oil, but that it did not have the right to say at what price a producer of crude petroleum should sell his oil.

The case arose over an attempt of the department to fix a minimum of 85 cents per barrel for Oregon Basin crude oil at a time when The Texas Company had made a contract with Cody Petroleum Company for the purchase of a given quantity of crude from its wells in that field over a period of three years at 52 cents per barrel.

Billy Creek

Casper.—A test was not made this week of the Carter Oil Company's Billy Creek well due to the fact that the company decided to erect about 6,000 barrels of storage instead of the 3,000 originally planned. This will delay the test for another week.

It is believed that this well will produce about 1,000 barrels a day at the least; the production is coming from the first Wall Creek sand at 3240 feet, 20 feet in the Frontier formation. Location is in Section 16-48-82. The well is jointly owned by the Carter Oil Company, Consolidated Royalty Company, and Western Exploration Company. Carter Oil Company owns a half interest, and each of the other companies hold a quarter interest each.

Vineland District

Pueblo, Colo.—There are about 18 locations, some already spudded and others moving in, in the new Vineland district, Pueblo County, and a great deal of interest in operations in this state is centered in this territory.

The discovery well is being delayed in its completion because of pending litigation. It was drilled by the Rozella Oil Company, which has changed its name to Vineland Oil Company. The operators plan to underream the well and run casing into the 600 feet of open hole. The well was reported to be gassing.

Casper.—Two of the three gas wells in the North Casper Creek field, in Natrona County, will be deepened to the oil-producing horizon, according to the operator, Michael C. Weisman of Minneapolis.

The wells develop gas at about 968 feet, and the oil is expected at 3200 feet.

Fuel for the two wells will be provided by the third well.

Beaumont, Texas. — The Norvell-Wilder Hardware Company, which maintains headquarters at Beaumont, with branch stores in Shreveport, Houston and Fort Worth, has changed its name to Norvell-Wilder Supply Company.

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(Continued from page 38)

something in a more definite way will be known of the sub-surface structural conditions of the area.

Hall & Briscoe's Holmes 1, NW SW SE Section 10-11-3w, near the southeast corner of the city limits, and two and a quarter miles northwest of the producer, apparently has missed the Tonkawa series. It is below the depth that it should encounter that horizon. The entrance of this new condition increases the importance of the test. If it should produce a city lot drilling campaign would be the result.

Equipment

The equipment in use at Oklahoma City is of the heaviest sort, fully capable of penetrating to the 6400-foot pay horizon without difficulty. Softer upper formations than encountered at Seminole enable speedier drilling. There are no unusual caving formations encountered so far in any of the tests and little difficulty is expected in completing the tests.

The rigs are of heavy steel construction and practically all of them are 120 feet in height. Most of the companies are using three boilers of 250 horsepower each, while some are using four of 200 horsepower.

Due to the lack of any particular cavey formations to pass through, some unusually long strings of casing are being run. The discovery well set 125 feet of 15½ foot surface pipe. Its nine-inch casing was set at 4782 feet and the seven-inch at 6355 feet. Most of the other tests will follow the same casing plan.

Rotary tools will be used right up to the top of the pay. This will also aid in speeding completion of the tests.

All tests in the pool are using gas for fuel, with one exception. Hall & Briscoe are drilling one test by electricity. Oklahoma Gas Company has a line into the field.

Outlets for Crude

There need be no worry about the ability of pipe lines to handle the production at least for the present. Empire Pipe Line Company has a small line running from the discovery well to a loading rack. This company's line from Guthrie to Oklahoma City is complete and a gravity gathering system is being placed in the field. This is a 32-mile extension line and gives the area a direct connection with the company's Mid-Continent system.

Prairie Pipe Line Company also is building a line to the field which will connect with its Mid-Continent system. Railroad facilities there can be placed in use if necessary. The area is not far removed from several transcontinental lines, or extensions for such lines.

There is only one promotion test in the entire field. That is being drilled by the Sooner Development Company, whose test lies to the west of other rigs. The great depth and costly contracts call for a large sum of money to be on hand to commence with.

Indian Territory Illuminating Oil Company, the largest operator in the field and owner of most of the acreage, has 200 men working in the field. This company now has its gasoline plant completed. The plant will have a capacity of 20,000 galions of gasoline daily. The decreased pressure of the discovery well left hardly enough to force the gas to the plant. Compressors are not yet completed. Gas from the well tested about 1½ gallons per 1000 cubic feet.

The sky is the limit on prices for royalties around Oklahoma City, while leases are practically unobtainable. Major companies own most of the acreage and are holding it. As a result, leasing has been spreading farther and farther away.

Future Developments

Regardless of the outcome of the exploration of the Oklahoma City field, the strike will remain an important one because of the wildcat play it will bring. There are several directions of special interest to operators. A hot-bed is the one from Oklahoma City east to Seminole and much work can be expected here when conditions clear up. Some favor the area north of Oklahoma City to the McCully and Garber pools. These fields are also deep producers. The play has already spread south into Cleveland County and in the future some additional drilling will occur there. Western Oklahoma, particularly along the Canadian River, is feeling the result of the strike by increased interest.

It is probable that the discovery strike has brought the Oklahoma oil industry into another era—one of deep drilling, and with the costs so high as to bring about the pooling of acreage and limiting the play to major companies.

R. J. RIGGS

R. J. Riggs, chief geologist of the Indian Territory Illuminating Oil Company, was given credit for that company's wildcat strike south of Oklahoma City. So highly did Riggs and other of the company geologists regard the structure found south of Oklahoma City that the company invested sufficient money in leases and in drilling the discovery well that it became the most expensive wildcat activity of the state. The discovery well has produced nearly half a million barrels of crude.

Riggs has been a geologist in the Mid-Continent for about 14 years. He knows every field in the Mid-Continent. He was connected with The Texas Company for a few years, did consulting work in Tulsa, and joined the Indian Territory Illuminating Oil Company three years ago. He also spent two years in South America with mining interests. He did graduate work at Chicago and Columbia universities.

He was one of the early men at Garber and gets some credit, along with Dorsey Hagar, for that field. He was among the early geologists at Seminole and the success of his company there is known. Bowlegs, Little River, the original well at Seminole City, and Maud, are among his achievements. The Oakhurst structure, west of Tulsa, was worked out by Riggs several years before the field was developed, but at that time he could get no one interested in it.

Western Oklahoma Still Increasing In Activity

Tulsa.—The activity in Western Oklahoma continues to increase. Peerless Oil & Gas Company has made a location for a test in NW NW NE Section 14-28-16w, northwest of Alva, in Woods County. In the same district Sinclair Oil & Gas Company has a rig up for its Shares 1, C NE SW Section 33-27-16w.

J. V. Bailey has a location in the C SE NE Section 18-19-18w, northwest of Taloga, in north central Dewey County. Harris & Haun's Cole 1, SE SW NW Section 24-18-5w, has the cellar dug. It is east of Columbia, in eastern Kingfisher County, and west of the McCully pool.

East of Slagle, in Woods County, Buvibar Petroleum Company's Fee 1, C SE SW Section 10-25-15w, is standardizing at 4190 feet. Wilson et al's test in NE NE SW Section 4-23-16w, east of Belva in northwestern Major County, is drilling below 350 feet. Burgoyne Brothers' Merkins 1, SW SE NE Section 15-21-19w, south of Moscow, in Woodward County, is shut down at 1910 feet.

McClure Oil Company's Watt 1, C SE Section 9-23-20w, seven miles northeast of Woodward, in Woodward County, is waiting on the cement to set at 3240 feet. The eight-inch casing was set at this depth.

Tulsa.—D. W. Franchot and Mid-Continent Petroleum Corporation's Patrick 1, SW SE NW Section 16-16-10, east of Bristow, in Creek County, is flowing at the rate of 40 barrels per hour from the Dutcher sand at 2894-2900 feet. The installation of larger separators caused the increase in production.

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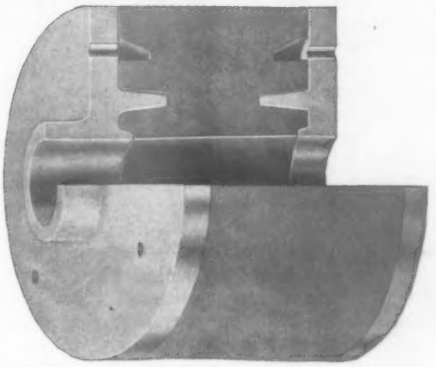

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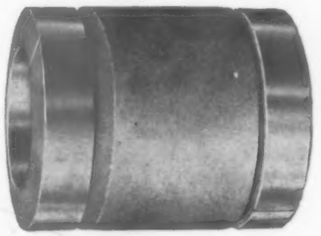

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(*Continued from page* 34)

age place for surplus gas. It is a generally recognized fact that, if low trap pressures exist and there is no crying need for natural gasoline, it does not pay to use dry gas for circulation. The amount of absorption plant capacity available, will, however, govern this to some extent. Likewise, with injection, the storing of wet gas, with its gasoline fractions, in any partially depleted sand will tend to reduce the viscosity of the oil with which it comes in contact and effect a greater ultimate yield from that sand. The high pressure gas from the new Nordstrom and Buckbee wells can be piped direct to the gas lift and injection wells and the usual cost of compression for such purposes eliminated to the extent that existing presseures suffice.

It might be practical, under some conditions to provide for three stage separation. You will note from the tabulation on Plate III that the amount of gas discharged from the secondary traps, while the pressure ranged from 30 to 43 pounds, averaged 999 million cubic feet per well. An intermediate trap, set on the ground could be used for this purpose, the final or elevated trap separating the smaller remaining portion of gas and delivering it to the low pressure system. The gas from the 30-pound intermediate trap would be delivered direct to the 30-pound absorption plant and the cost of low pressure compression saved. Any other pressure, that conditions warranted, could be used at the intermediate trap.

Modern absorption plant design gives a flexibility that adapts itself nicely to the various field conditions with which we have to deal. High pressure absorbers will handle considerably more gas per unit cost than the usual 30-pound variety. Likewise, because of the higher percentage of oil saturation that can be reached, part of the distillation equipment capacity can be reduced. For the same amount of gasoline production smaller preheaters, exchangers, cooling coils and cooling towers can be used. Since approximately 60 per cent. of the boiler plant is built for the heating of the oil alone an appreciable saving can be made in its original cost, with, of course, a corresponding saving in operating costs after completion. Accordingly, a high pressure plant with its lower construction cost per gallon can be built for peak conditions, and if properly designed can be operated under gradually decreasing pressures, as the wells subside, until such time as it is feasible to remodel it into a standard low pressure plant. The initial pressure for which it should be designed is governed by the length of time that well pressures can be expected to hold to that point. Presumably, when that stage is reached, the volume of gas will have decreased sufficiently that a reasonable degree of efficiency can be maintained.

Two stage trap installations, in conjunction with an absorption plant built for two working pressures, gives an adaptibility to relative operations that permits the greatest conservation of resources and the most practical and economical system of natural gas treatment and disposal.

Considerable stress is placed on possibility of increasing the ultimate yield from oil wells by controlling gas-oil ratios. This is done by holding back pressure against the sand and is usually accomplished during the early life of a field, by placing a "bean" in the flow line as it leaves the casing head. A co-ordination of these efforts with the endeavor to maintain high primary trap pressures as long as possible, even though one is sometimes sacrificed for the good of the other, will in the end, effect an economic benefit to all concerned.

The planning of a system for the separation, gathering, treatment and distribution of natural gas, all of which are so vitally affected by the method of trapping, is a problem of no mean proportions. One can not take care of each problem as it arrives, but must build with an eye to the future and incorporate in his design a flexibility of service that will adapt itself, to a reasonable extent, to unforeseen eventualities and any error in the predictions upon which his plans are, of necessity, based. One of the most important facts to bear in mind, is that we should conserve as long as possible the natural forces that we already have at our disposal.

Data Published on Dupo Oil Field in Illinois

Urbana, Iill.—The Illinois Geological Survey has prepared for distribution, Illinois Petroleum Bulletin No. 17—The Dupo Oil Field, by A. H. Bell. The Dupo area has recently claimed attention because of the new oil pool discovered by Ohio Oil Company on the northward extension of the Waterloo anticline in St. Clair County, Illinois. Following the discovery of the Waterloo field in 1920 a considerable number of wild-cat wells were drilled in the surrounding area. Because several wells drilled along the crest of the anticline to the north of the Waterloo field failed to produce oil in commercial quantities, the interest of the oil operators in that part of the structure subsided until the recent successful tests were made by the Ohio Oil Company.

Data on the geology and development of the area are summarized and prospects for new production are discussed in this new bulletin which will be ready for distribution about March 2. It includes structure contour maps on the Kimmswick or Trenton limestone, one giving details in the vicinity of the new pool and the other giving a generalized interpretation of the structure from Waterloo to St. Louis, Missouri. A second article on oil production and development in Illinois during 1928, by Gail F. Moulton, summarizes the results of drilling during the year and gives production statistics for the state for the years 1924-28 inclusive. Copies of this bulletin can be obtained for 25 cents (stamps or currency), by addressing Dr. M. M. Leighton, Chief State Geological Survey, Urbana, Illinois.

San Francisco Line

San Francisco, Calif.—Construction of a 22-inch gas line from the Kettleman Hills field to this city, in addition to an 18-inch line from Buttonwillow to Kettleman Hills, is now well under way and gas will be delivered from San Joaquin Valley fields by the early winter months. A brief survey shows that San Francisco may require as much as 150 million cubic feet of gas daily. The extremely high rock pressure in the Kettleman Hills field will simplify the transportation of gas such a long distance.

PERFORMANCE DATA OF WELLS PRODUCING FROM NORDSTROM AND BUCKBEE ZONES

Well No.	Oil Prod. per 24 hrs. (Bbls.)	Total Gas/Oil Ratio	Primary Trap Data					Dissolved and entrained gas in oil to secondary trap Cf per Bbl.	Secondary Trap Data				
			Temp.	Press.	Mcf	G. P. M.	Gasoline Produced		Temp.	Press.	Mcf	G. P. M.	Gasoline Produced
1	5155	2819	128	300	13,279	1.02	13,545	243	96	16	1253	4.99	6250
2	4067	1256	132	300	3,531	1.16	4,114	387	109	16	1578	6.23	9826
3	4175	1518	131	300	5,182	1.01	5,244	277	112	8	1157	5.79	6701
4	5826	4430	123	300	23,825	0.80	19,060	340	104	14	1977	4.70	9296
5	2622	3775	125	200	9,545	1.36	12,981	135	95	7	353	5.91	2086
6	3326	3165	122	200	9,945	1.39	13,824	175	92	8	583	5.89	3434

IRON-METERS-CASE

A Mighty and Successful METER

The three sizes of Ironcase Metric Meters (80-B, 250-B and 500-B) which were built to give improved service over their predecessors (60-B, 100-B and 200-B) have now been proved by five years of hard service to be every bit as good as promised.

In building these modern Ironcase Meters the dominating motive was to secure an increase in capacity and a decrease in weight. This was accomplished by changing the shape and size of the case.

Otherwise the improved Ironcase sizes retain all the fine features of the older types which had given satisfactory service for 12 years prior to the advent of the modern Ironcase. Additional important refinements, however, were introduced: *Alemite (non-stop) lubrication; Timken Bearings; Longer Valve Links; Light Weight Valve Covers; Greater Resistance to Valve Wear; Diaphragm Drains, and Corrosion Proof Cases.*

These features, plus added capacity and decreased weight, give the meters longer life in service and much better operating qualities. If today's Ironcase is an experiment, it is a mighty successful experiment that every user of these wonder measuring instruments will profit by.

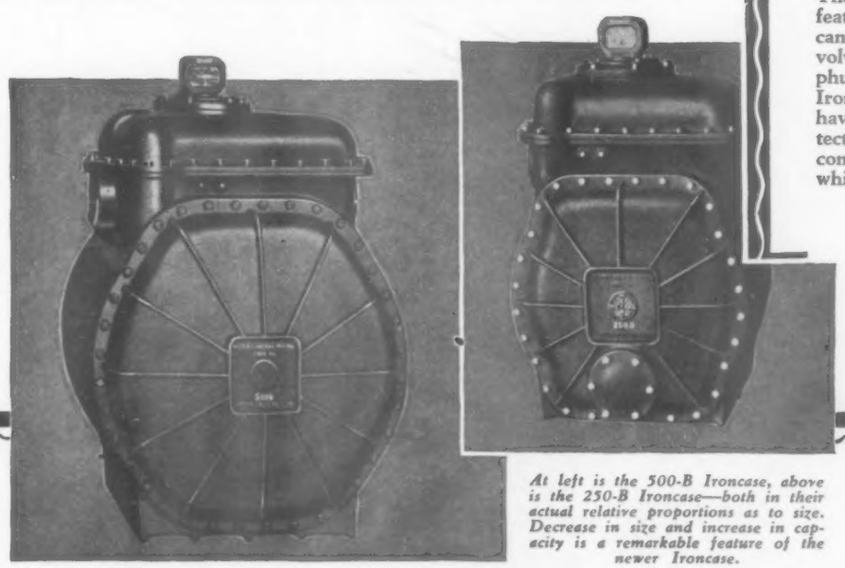
CELEBRATES *it's 5th birthday by getting a brand new feature*

Every other feature having proved its ability and high merit for Ironcase Service, there is only one improvement we can contribute to these modern meters at the close of their 5th year. This new feature is a *special Metric formula varnish* that is applied to the interior of all castings to prevent corrosion.

After extensive proof we know that corrosion is conquered by this coating insofar as it could affect Ironcase accuracy.

The desirability of this new feature is of greatest significance where measurement involves handling gas with sulphur content. However, all Ironcase Meter cases will have this anticorrosion protection without regard to conditions of service for which they are intended.

METRIC METAL WORKS
of the American Meter Company-Inc.
ERIE - PENNSYLVANIA - U-S-A



At left is the 500-B Ironcase, above is the 250-B Ironcase—both in their actual relative proportions as to size. Decrease in size and increase in capacity is a remarkable feature of the newer Ironcase.

Sales Service
WESTCOTT & GREIS, Inc.
Dallas — Tulsa — Los Angeles

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	6	4	..	4	..	..	6	..	...	405
California	20	27	19	25	..	..	1	2	32,660	36,625
Illinois	2	2	1	..	..	..	1	2	2	...
Indiana	3	1	..	1	2	..	1	..	...	5
Kansas	6	4	5	2	..	..	1	2	395	530
Kentucky	26	27	21	12	4	1	1	14	572	287
Louisiana	11	19	4	4	2	8	5	7	1,355	1,200
Michigan	4	5	3	1	1	..	..	4	950	50
Ohio	45	34	15	13	14	13	16	8	206	370
Oklahoma	93	79	69	46	8	2	16	31	56,912	23,428
Pennsylvania	3	40	3	37	..	3	..	..	14	409
Texas	125	143	70	69	9	9	46	65	39,117	58,165
West Virginia	15	20	4	6	11	13	..	1	34	37
Total	359	405	214	220	51	49	94	136	132,217	121,511
Increase this week	..	..	..	..	2	..	42	..	10,706	...
Decrease this week	46	..	6	..	..	..	..	..	...	...

EASTERN STATES

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
BOONE COUNTY—		
Hope Nat. Gas Co., Chambers 7227	¶¼	....
Cameron O. & G. Co., Alderson 11	¶½	....
Owens Bottle Machine Co., Nelson 1	¶¼	....
Ballard 1	¶¼	....
G. L. Cabot, Youghiogheny Coal 5	¶¼	....
Sherman Dev. Co. 5	¶¼	....
CALHOUN COUNTY—		
Daily O. & G. Co., Maize 1	¶¼	....
Virginian Gasoline & Oil Co., Proudfoot 1	5	....
LINCOLN COUNTY—		
L. R. Sweetland, Sweetland 41	¶¼	....
C. C. Wolfe, Midkiff 1	¶¼	....
MONONGALIA COUNTY—		
Philadelphia Oil Co., Headley 1	25	....
WIRT COUNTY—		
Dailey Bros., Adams 1	2	....
RITCHIE COUNTY—		
Southern Oil Co., Lynch Hrs. 1	2	....
ROANE COUNTY—		
United Fuel Gas Co., Seaman 1	¶¼	....
WETZEL COUNTY—		
Carnegie Nat. Gas Co., Wade 1	¶1½	....

KENTUCKY

DAVIESS COUNTY—		
Pops Dev. Co., Taylor 4	80	....
Wittmer O. & G. Co., Sutton 3	15	....
Huff & Calderwood, Salmon 3	50	865
WEBSTER COUNTY—		
Iley Browning & Co., Threns 1	¶3½	....
H. Z. Clark & Co., Powell 1	35	428
E. W. Wilson & Co., Curry 1	20	....
TRIGG COUNTY—		
T. H. Colvin & Co., unknown 1	¶1	1800
HOPKINS COUNTY—		
Ohio Oil Co., Baker 1	¶2	1702
ALLEN COUNTY—		
Snowden-McSweeney Co., Hinton 14	*	464
HANCOCK COUNTY—		
F. A. Drake, Drake 1	15	....
HENDERSON COUNTY—		
Imperial Oil & Gas Products Co., Tripplett 1	10	....
Triplett 2	20	....
Unknown 1	12	....
Unknown 2	15	....
Unknoan 1	15	....
OHIO COUNTY—		
Lewis, Maxey & Co., Royal 2	40	....
Unknown parties, Thomas 1	¶1	....
Daley & Lowman, Winsett-Femster 2	20	525
Wood Oil Co., Smith 4	30	460
Ferguson 3	25	450
Lee & Young, Ezell 8	30	....
Berkhead & Raydon, Taylor 3	10	....
Carpenter & Co., Howard 2	20	....
Lyle, French & Co., Whittaker 8	40	....
Brenner, Adams & Co., Miller 1	20	....
C. C. C. Oil Co., Berkead 1	50	....

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BEAVER COUNTY—		
Laughner O. & G. Co., Economy tr, 95	10	....
McFonald & Co., Bambrick 1	2	....
Murdock Oil Co., Proskick 3	2	....

SOUTHEASTERN OHIO

WASHINGTON COUNTY—		
Anderson & Co., Flannery 1	10	917
Southern Oil Co., Hall Hrs. 8	2	....
Ohio Fuel Gas Co., Gill 1	*	1400
Triangle Oil Co., Epler 1	*	1150
Shay, McMullen & Co., Creighton 3	20	1239
NOBLE COUNTY—		
H. C. Morris, Morriss 2	*	....
Shringler Oil & Gas Co., Shringer 3	2	....
Francis Sayling Co., Feldner 2	8	....
Local Oil Co., Hoffman 1	*	1667
MORGAN COUNTY—		
Bowman O. & G. Co., Spurrier 4	¶¼	1627
The Kemrow Co., Riggleman 1	¶¼	750
Ohio Fuel Gas Co., Haskett 1	*	1650
MONROE COUNTY—		
Roy Decker & Co., Bishop-Norris 4	*	700
Charles Hoge & Co., Ulrick 2	*	1795
M. W. Eichelberry & Co., Eichelberry 3	*	1750

CENTRAL OHIO

ATHENS COUNTY—		
Kiggins & Co., Fleming 2	¶¼	1627
Bailey O. & G. Co., Wells 2	¶¼	1669
Ohio Fuel Gas Co., Glass 3	¶¼	1536
Phillips 1	¶¼	1698
Cole 1	*	1389
Burson 1	*	1682
King 1	*	1721
LICKING COUNTY—		
Emerald Pet. Co., Martin 3	10	858
Cochran 2	32	3010
Wehlre O. & G. Co., Buckingham Hrs. 1	*	....
Preston Oil Co., Morris 4	2	699
MEIGS COUNTY—		
Ohio Fuel Gas Co., State of Ohio 1	4	1800
Pure Oil Co., Krauter 5	2	1826
Frank Leifhart & Co., Thomas 2	*	1886
Tyree & Co., Stobart 7	*	612
ASHLAND COUNTY—		
Jones & Co., Winbigler 3	15	....
Logan Gas Co., Schoolroy 1	¶¼	....
Ohio Fuel Gas Co., Welch 1	¶1½	....
SUMMITT COUNTY—		
Wiser Oil Co., Hankey 1	¶½	....
F. A. Brendall & Co., Rennie 1	¶½	....
Stump 1	2¼	....
JACKSON COUNTY—		
Ohio Fuel Gas Co., Lefler 1	¶¼	2629
Cherrington 1	¶¼	2753
PERRY COUNTY—		
Chartier O. & G. Co., Hocking Products 210	55	....
HOCKING COUNTY—		
Gordon Oil Co., Stone 8	15	2835
CUYAHOGA COUNTY—		
Ohio Fuel Gas Co., Carpenter 1	¶¼	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbbls	Depth
WOOD COUNTY—		
H. E. Berry, Berry 2	24	1251
MERCER COUNTY—		
Chickasaw Oil Co., Grieshof 1	5	1237
LUCAS COUNTY—		
Edward Oronske, Tr., Gruenke 1	*	1832
SENECA COUNTY—		
W. E. Richards & Co., Scherger 3	*	1546

INDIANA

GIBSON COUNTY—		
Roxana Pet. Co., Onyett 1	¶5	1460
Fred Ellis, Lindy 1	*	1690
HENRY COUNTY—		
Knightstown Gas Co., Kahn 1	¶½	....

ILLINOIS

CLARK COUNTY—		
W. C. McBride, Inc., Everick 3	2	580
WABASH COUNTY—		
Phipps, Blosser & Co., King 1	*	1635

MICHIGAN

MUSKEGON COUNTY—		
Ohio Oil Co., Gates 1	¶1½-500	2059
Nelson & Witt, Gates 1	¶1-350	2060
Lima Oil Corp., Figge 4	10	1870
Beebe & Gillett, Orr 1	100	1690

CALIFORNIA

BELRIDGE—		
Berry Oil Co., No. 92	35	690
CAT CANYON—		
Winann Oil Co., No. 3, 30-9-32	200	3697
KERN FRONT—		
The Texas Co., Midlands 11, 14-28-27	250	2030
LONG BEACH—		
E. E. Coombs, Hope 1	200	6145
Cypress Pet. Co., Crest 5	175	5395
R. L. Roggie, Trustee, Keck 1	700	7210
Shell Oil Co., Jones 10	200	7305
MONTEBELLO—		
St. Helens Pet. Co., Monterey 17	100	3640
POTRERO—		
Associated Oil Co., Pacific-Southwest 1	200	5917
SANTA FE SPRINGS—		
Ambassador Pet. Corp., Baker 2	900	5830
Bandini Pet. Corp., Off 7	3800	5660
Off 9	7000	5840
General Pet. Corp., S. F. 146-A	5400	6038
George F. Getty, No. 13	2100	5440
Richfield Oil Co., Pettifils 1	3600	5911
O. J. Rhode, York 1	900	5885
Union Oil Co., Howard 9	4400	5325
Wilshire Oil Co., Peterson 2-A	1500	5870
VENTURA—		
Shell Oil Co., Taylor 31	1000	6585
WEST COYOTE—		
Pet. Securities Co., McNally 1	*	7272

OKLAHOMA

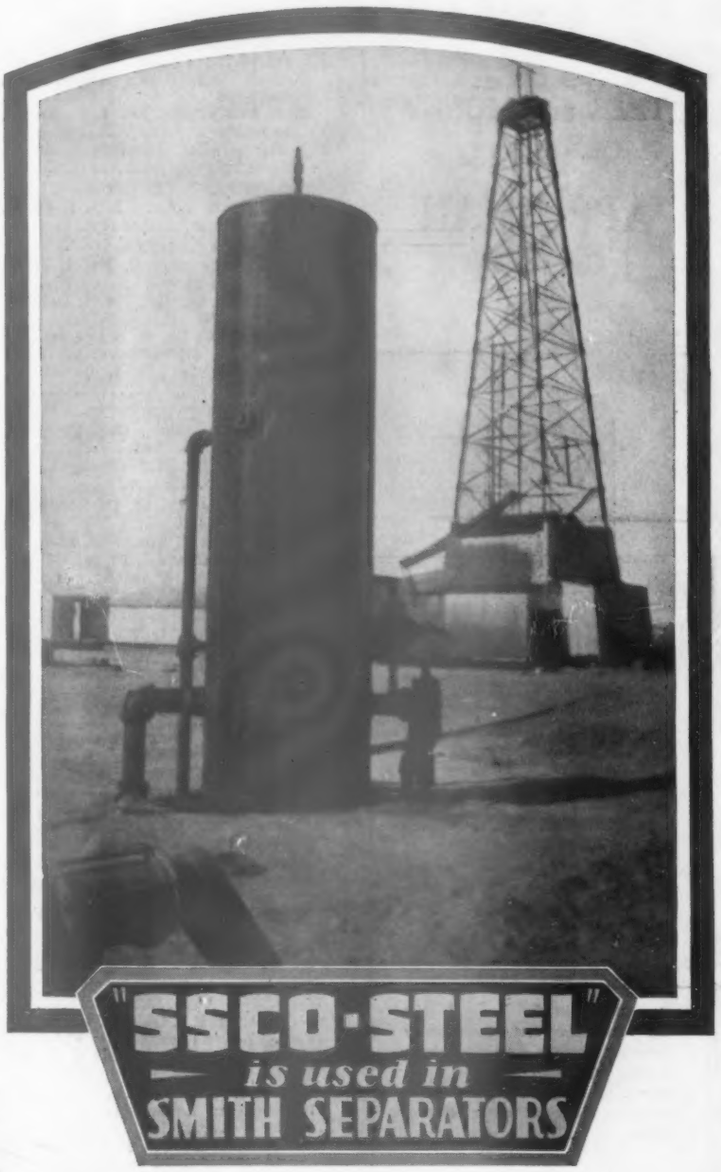
CARTER COUNTY—		
Magnolia, Tipton 1, se ne nw, 4-2s-3w	30	4203
Gypsy, Morris 5, ne se, 29-2s-3w	¶36m	2626
Magnolia, Baird 1, sw se se, 23-1s-3w	¶51m	2650
Magnolia, Lewis 6, nw ne ne, 23-1s-3w	320	2386
COAL COUNTY—		
W. E. McGraw, Commerce Trust Company 1, 12-1s-8e	*	1923
CREEK COUNTY—		
Shaffer, Fore 3, ne sw sw, 35-16-10e	30	3028
Sunray, Fore 3, se nw sw, 35-16-10e	100	3038
Skelly, Watson 1, ne sw sw, 15-14-8e	75	3804
H. U. Bartlett, Berryhill 1, cwl nw nw, 1-17-11e	*	1995
Gled Oil Co., Grayson 3, se nw ne, 24-19-8e	*	3006
HUGHES COUNTY—		
T. W. Atkins, Reed 1, ne nw, 2-8-8e	*	4370
JEFFERSON COUNTY—		
Beck & Lapham, Seay 3, se sw, 34-6s-5w	80	1155

(Continued on page 82)

"If It's Worth Drilling For, It's Worth Saving"

The Deepest Well In the World Is Smith Separator-Equipped

Group No. 1 Oil Corporation's well No. 1-B, world's deepest well, drilled to a depth of 8,520 feet, is producing over 670 barrels of 53 gravity crude of high gasoline content. Here, as on hundreds of other wells throughout the country, a Smith Oil & Gas Separator was chosen for its dependability, safety and capacity. The Smith Separator is specified as standard equipment by all leading operators the world over on account of its efficient and economical operation in separating oil, gas, and water, and for reducing fire hazards to the minimum. Smith Separator's popularity with both large and small producers is due to the exclusive advantages to be found only in these quality controlled oil-field products. It will pay you to get the facts. Ask any Smith Separator Company representative or write for illustrated catalog.



"THERE'S A TYPE FOR EVERY SERVICE AND A SIZE FOR EVERY PRODUCTION NEED"

The longevity of Smith Separators is illustrated in the above installation. This Type No. 1 Separator was originally installed in the Big Lake District of Texas in 1924 and has been in continuous service since that date. SSCO-STEEL, the superior steel, exclusive with Smith Separators, plus scientifically correct design, is responsible for greater earnings over a longer period of service.

SMITH SEPARATOR COMPANY
Tulsa Okla.

Export Office: 30 Church St., New York

HOUSTON FORT WORTH SHREVEPORT LOS ANGELES

Say you saw it in The OIL WEEKLY

You **GAIN**

in

TIME and MONEY

By Using The

APPLEMAN

Gumbo Bit

(Patent Applied for)

WATER COURSES

Note that water courses lead direct to cutting edge. This design has accomplished a maximum cooling effect. The cuttings are rapidly broken up and washed away in solution thus obviating choking-up.

SELF-SHARPENING EDGES

A principle in the design is that the blades are formed concavely favoring cutting edges for both bottom and side of hole. Attained by hard facing, permitting wear on back to retain cutting edge.

SIDE WALL CUTTING

The cutting edge is so constructed that it cuts side wall as it drills. This feature accomplishes a full round hole and a well prepared side wall. Holds guage longer. This side wall cutting function makes reaming rarely necessary.

Write for information on this astounding improvement in design of fish tail bits.

B.K.APPLEMAN

BEAUMONT, TEXAS

Oklahoma (continued)

Company, Well and Location	Initial Production Bbls.	Depth
KAY COUNTY—		
Vernon Oil & Gas Co., Klink 2, c ne nw, 21-29-1e	¶200,000(g)	400
MUSKOGEE COUNTY—		
Newhoma Oil Co., Barnett 5, cel nw se, 19-16-15e	¶1½m	1368
Mills & Bell, Brown 1, nw se ne, 19-13-19e	*	950
Hale & Williams, Lee 1, se nw ne, 13-14-18e	*	1038
J. A. Swindler, Jefferson 1, ne se, 7-15-15e	*	1740
OKFUSKEE COUNTY—		
Producers & Refiners & J. I. Carey, 2, sw ne se, 29-12-10e	245	3128
OSAGE COUNTY—		
Prairie & Continental, No. 1, se sw sw se, 31-24-9e	50	2170
Galt Brown Oil Co., No. 4, cwl E½ nw, 7-24-8e	80	2355
Devonian Oil Co. & Billingslea No. 1, ne nw, 6-23-9e	40	2146
W. S. McCray No. 1, ne sw ne, 28-22-12e	*	2018
PONTOTOC COUNTY—		
Louisiana Oil Refg. Co., Perry 17, nw ne ne, 19-5-8e	250	2874
Westheimer & Daub, Busby 1, nw, 4-4n-8e	*	1670
POTTAWATOMIE COUNTY—		
Pure, Urbanksly, ne sw ne, 19-8-5e	585	4215
Gypsy, Miller 4, nw ne se, 18-8-5e	2015	4028
Twin State, Colvin 1, ne sw, 7-8-5e	250	4097
Sinclair, Calvin 1, se. sw, 7-8-5e	2005	4079
Shaffer, Tolon 1 (owdd), ne se sw, 30-7-5e	375	4145
Pure, Thrailkill 1, (owdd) sw nw, 19-7-5e	335	4126
Magnolia, Cherry 4, ne sw ne, 26-7-4e	1945	4274
Gypsy, Roseman 2, (owdd) sw se nw ne, 26-7-4e	1030	4242
Mid Kansas, Gesselman 2, (owdd) nw sw nw, 25-7-4e	645	4411
Gypsy, Bruno 3, (owdd) sw ne nw, 25-7-4e	2	4444
Westheimer & Daube, Freid 6, se sw nw, 24-7-4e	125	4296
Sinclair, Blandin 6, (owdd) se nw sw, 24-7-4e	25	4256
Blackwell Oil & Gas Co., Lewis 2, se sw ne, 24-7-4e	20	3732
Magnolia, Robbins 5, sw se, 15-7-4e	¶8½m	3829
Pure, Wiley 2, ne nw, 7-8-5e	*	4237
Superior, Jones 1, sw nw ne, 24-8-2e	*	5516
Gypsy et al, Guinn 1, ne se nw, 9-7-5e	*	4679
SEMINOLE COUNTY—		
Texas, Lewis 1, sw se nw, 13-5-7e	¶2m	2947
Sinclair, Blanton 2, ne sw nw, 11-7-6e	250	4288
Sinclair, & Lenix, Judy 1, ne nw se, 1-8-5e	470	4404
Independent, Lawson 1, ne se, 1-8-5e	3140	4283
Independent, Lawson 4, se, 1-8-5e	1115	4474
Gypsy, Mosar 3, se sw ne, 1-8-5e	484	4545
Darby Pet. Co., Judy 1, ne sw se, 1-8-5e	590	4348
Empire, Cluck 1, sw ne, 11-8-5e	1725	4182
Tidal, Nellie 1, ne se, 12-8-5e	870	4396
Tidal, Nellie 2, ne se se, 12-8-5e	1920	4364
Magnolia, Killing 1, se nw nw, 14-8-5e	22	4464
Amerada, Rice 1, sw se se, 5-8-6e	1094	4311
Gypsy, Barkus 2, sw se sw, 6-8-6e	600	4744
Gypsy, Barkus 3, se sw sw, 6-8-6e	1825	4455
Gypsy, Barkus 6, csl N½ sw, 6-8-6e	2060	4642
Gypsy, Mission 5, se, 6-8-6e	360	4480
W. B. Pine, Harjo 1, sw se, 6-8-6e	990	4423
Twin State, Judy 1, se nw se, 6-8-6e	1565	4192
Twin State, Judy 2, csl N½ S½, 6-8-6e	2170	4180
Gypsy, Doser 2, nw se ne, 7-8-6e	1600	4453
Gypsy, Doser 4, ne, 7-8-6e	2120	4497
Gypsy, Hardy 2, sw ne, 7-8-6e	675	4442
Gypsy, Hardy 3, se nw, 7-8-6e	650	4665
Gypsy, Hardy 4, sw se nw, 7-8-6e	275	4384
Gypsy, Harjoche 1, ne se, 7-8-6e	590	4357
Gypsy, Harjoche 2, se nw se, 7-8-6e	600	4445
Gypsy, Harjoche 3, ne nw se, 7-8-6e	700	4451
Independent & Kistler, Payne 1, ne nw, 7-8-6e	1655	4283
Independent & Kistler, Payne 2, nw ne nw, 7-8-6e	800	4311
Marland, Maines 2, sw se sw, 7-8-6e	950	4479
Minnehoma, Neal 1, ne nw nw, 7-8-6e	1750	4508
C. L. McMahon et al, Harjo 1, sw nw se, 7-8-6e	360	4352
Shell & Papoose, Maines 2, ne nw sw, 7-8-6e	735	4382
Shell & Papoose, Maines 3, se sw sw, 7-8-6e	1145	4289
Sinclair, Hardy 1, nw ne sw, 7-8-6e	1300	4232
Sinclair, Hardy 2, ne sw, 7-8-6e	800	4278
Sinclair, Hardy 3, se ne sw, 7-8-6e	700	4261
T. B. Slick, Crain 1, nw se se, 7-8-6e	965	4307
Gypsy, Micco 1, sw nw, 8-8-6e	95	4491
Twin State, Haynes 2, ne, 8-8-6e	1505	4213
Carter & Denver Pro. & Refg. Co., Melissa 2, nw, 9-8-6e	1530	4288
Carter, Fuswa 2, ne nw nw, 18-8-6e	2110	4477
Carter, et al, Strothers 1, se sw nw, 11-9-ne	1300	4426
Moore & Curran, Allen 1, se sw, 23-5-5e	*	1462
Reiter-Foster Corp., Ritter 2, nw ne, 31-7-6e	*	1295
STEPHENS COUNTY—		
Ven-Mex-Mid Continent Pet. Bush 5, se nw ne nw, 3-2s-8w	30	1655
Magnolia, Worrell 5, nw ne nw, 19-1s-8w	¶12m	1580
Magnolia, Humphreys 2, ne se ne, 11-1s-4w	115	3541
Sparks, Prince et al, Hedgecox 1, nw ne, 29-2n-5w	*	2119
TULSA COUNTY—		
Savoy Oil Co., Turner 1a, sw nw sw, 19-19-12e	*	2340
WAGONER COUNTY—		
H. H. Orr, Grayson 4, cel se sw, 34-17-18e	¶1½m	404
Newhoma Oil Co., Orcutt 2a, se nw nw ne, 35-18-16e	50	1017

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
NEVADA COUNTY—		
Humble O. & R. Co., P. F. Hein 2, 1-14-21	*	3730
OUACHITA COUNTY—		
Sam Sklar, Tr., Langley 1, 19-15-15	*	2060
UNION COUNTY—		.....
H. L. Hunt, Gregory 6, 15-17-14	*	3401
Calgo Oil Co., Primm 1, 9-18-17	*	4385

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Empire, Huston 15, ne sw sw, 19-26-5e	30	2641
Phillips, Greer 1, nw sw nw, 23-27-5e	*	3252
COWLEY COUNTY—		
Trees Oil Co., Rasmussen 1, nw se nw, 29-30-5e	20	2940
J. A. Hull Co., Kukuk 19, se ne ne, 24-32-4e	120	3040
GREENWOD COUNTY—		
Phillips, Green 4, sw nw ne, 11-22-10e	200	2185
La Robb Oil Co., Teeter 1, nw sw sw, 18-25-9e	25	2457

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
CLAIBORNE PARISH—		
Dixie Oil Co., Gilbert 1, 27-21-5w	*	5034
CADDO PARISH—		
Falcon Oili Co., Muslow 2, 29-20-15	40	2327
C. H. French, Muslow 4, 31-21-15	15	1689
MADISON PARISH—		
Mid-American Pet. Co., Yerger 2, 51-16-14e	*	285
MOREHOUSE PARISH—		
Stovall Drilling Co., Etheridge 2, 22-20-4e	¶41.8	2147
UNION PARISH—		
Industrial Gas Co., Mrs. M. E. Hill 3, 9-20-3e	¶2½	2177

EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
PANOLA COUNTY—		
Eureka Nat. Gas Corp., Becknell 1, Co-rod E-17	*	2670
Nemours Corp., Brumble 4, Co-Ord E-15	¶5	2265
Natural Gas Prods. Co., Roquemore 8, Co-Ord E-15	¶6	2672

(Continued on page 84)

SKILLED SUPERVISION GUARANTEES THE QUALITY OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

GULF REFINING COMPANY

General Sales Offices

PITTSBURGH, PA.

District Sales Offices

New York Boston Philadelphia Louisville Atlanta Houston New Orleans

Ocean Terminals

Boston (Beverly), Mass.
Providence, R. I.
New York Harbor (Bayonne, N. J.)
Jacksonville, Fla.
Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

Say you saw it in The OIL WEEKLY

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
EAST HACKBERRY—		
Calcasieu Oil Co., Watkins 13	*	4070
EDGERLY—		
Hercules Oil Co., Paraffine 4, dd	300	3050
VINTON—		
Gulf, Stai-Vincent 44, dd	1000	3145

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
ALLEN DOME—		
Shell, Allen 5	*	5035
BARBERS HILL—		
Humphreys Corp., C. Barber 1	2300	5194
Mills Bennett Prod. Co., Smith 1, wo	3000	5272
BATSON—		
East Batson Oil Co., Stateland 18	5	940
BLUE RIDGE—		
South Texas Pet. Co., Lafferty 3	185	3580
CLAY CREEK—		
Sun Oil Co., Caraway 1	960	1277
GOOSE CREEK—		
Atlantic Oil Producing Co., Gaillard 20, dd	50	2850
HULL—		
Mecom Oil Co., Taylor 10	*	1185
PIERCE JUNCTION—		
Rio Bravo Oil Co., Settegast B-9, dd	¶	3460
Moody Corp., Settegast B-4	1200	4670
Navarro Oil Co., Cain A-3	300	4020
Shaw et al, Fitzsimmons E-3	1200	4585
REFUGIO—		
Houston Gulf Gas Co., J. E. Fox 3	¶	3587
SOUTH LIBERTY—		
Sun Oil Co., Mitchell 35	125	1300
Mitchell 38	100	3540
Navarro Oil Co., Baldwin 1	300	1725

SOUTHWEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
SALT FLAT—		
Shell, F. Tiller 1	1500	2691
Gulf, Allen & Tiller 3	150	2750
R. W. Carter 3	600	2665
W. M. Tiller 4	500	2713
STARR COUNTY—		
Crays & McCardle, Hicks & Hicks 1	*	500
JIM HOGG COUNTY—		
Randado Oil Corp., Palacios 36, Randado field	150	1312

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
L. G. Bradstreet et al, Reaves 1	*	1401
Culberson et al, Smoot 1	*	1207
Green et al, Riordan 2	10	1172
Humble O&R Co., Armstrong 14	130	1220
Independent O. & G. Co., Williams 1	*	2148
Love & Michael, Graham 1	*	1730
Phillips Pet. Co., DeBusk 2	*	1505
Rhodes & Higher, Dunn 1	*	2200
W. L. Spence et al, Conway 1	*	823
Ven-Mex Oil Co., Hickman 23	15	1268
Young Bros.-Alexander & Woodley Pet. Co., Armstrong 9	*	1220
Hickman 22	*	1270
CALLAHAN COUNTY—		
Harwell et al, Osborn 1	*	805
COLEMAN COUNTY—		
Herbert Oil Co.-Vacuum Oil Co. et al, Weaver 2	310	1826
Ilsing Prod. Co., Eddington 2	¶2	1129
Simms Oil Co., Moore 1	¶¾	370
Shell Pet. Corp., Newson 1	*	2001
Prairie O&G Co., Reaves 1	¶¼	1374
COMANCHE COUNTY—		
Carter et al, Reed 1	¶¼	1523
EASTLAND COUNTY—		
Barkley & Crotty, Browning 1	*	1305
L. E. Edwards et al, Gibson 1	*	1692
SHACKELFORD COUNTY—		
Crabb & McNeil, Matthews 2	†	955
Cranfill-Reynolds, Inc., Flippen 1-F	*	985
Earl-Dulls Texas Co., Matthews 5	250	1152
Hughes et al, Newell 1	*	1536
Roeser-Pendleton, Inc., Matthews 1	*	1260
Roeser-Pendleton-Marland Prod. Co., Cook 9-A, (Sec. 83)	60	1396
Simms Oil Co., Lones 5	50	793
Tannehill et al, Matthews 3, (Sec. 28)	*	1690
Tennant et al, Matthews 2	*	1195
STEPHENS COUNTY—		
States Oil Corp., Sikes 1	¶1½	3738

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CRANE COUNTY—		
Gulf Prod. Co., McElroy 58	120	2814
HOWARD COUNTY—		
Gulf Prod. Co., H. R. Clay 5	....	....
Moody Corp. (Superior), Roberts 7-B	200	2677
Pure Oil Co., Otis Chalk 11	25	1701
Sprague Oil Co., Roberts 4	780	3019
Taylor-Link Oil Co., Kloh 2	225	2348
JONES COUNTY—		
Phillips Pet. Co., Windham 2	150	2517
PECOS COUNTY—		
Marland Prod. Co., Yates 1-A, (Shallow)	225	135
Yates 2-A, (Shallow)	630	60
Yates 3-A (Shallow)	*	64
WINKLER COUNTY—		
Humble O&R Co., Hendrick 4-C, Lse. 2	9150	2904
Hendrick 7-C, Lse. 2	4800	2873
Hendrick 8-C, Lse. 2	3100	2977
Prairie O&G Co., Cowden 6	3200	2917
Simms Oil Co. et al, Sealy 1	290	2996

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
CARSON COUNTY—		
W. H. Holmes et al, J. K. Quinn 1	90	3096
GRAY COUNTY—		
Gardner Bros. & Collins, Saunders 1	¶15-400	2525
Prairie O&G Co., E. E. Reynolds 2	40	3143
HUTCHINSON COUNTY—		
Phillips Pet. Co., Johnson-Barnum 6	40	2878
MOTLEY COUNTY—		
Exploration Co. of Texas, Matador 2	*	4750

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
C. W. Boller et al, Falls County Fee 1	*	1201
Gilliland & Rosser, Dupriest 1	*	1481
H. L. Leais et al, McCarty 1	*	1504
Pandem Oil Corp. Richardson 1	*	1475
Rathke Oil Co., Wilson 7-A	*	1407
E. J. Stump & Co., American Ref. Prop. Fee 1	*	1453
United Prod. Co., Kovar 1	*	1506
A. T. Wolfe & Son, Nitschke 1	*	779
CLAY COUNTY—		
Lone Star Gas Co., Holloway 27	*	1905
COOKE COUNTY—		
Kewanee O&G Co., Timmis 7-A	160	1227
Timmis 2-B	60	1231
Shell Pet. Corp., Dennis 3	800	1220
ELECTRA—		
E. S. Easton et al, Ancell 1	*	865
J. G. Rowe et al, Waggoner Bros. 1	50	1300
MONTAGUE COUNTY—		
Pure Oil Co., Maddox 9-D	25	850
K-M-A AND IOWA PARK—		
Bridwell & Mayfield, Womac 4	25	1818
Gulf Prod. Co., J. A. Kemp 2-D	45	1645
Humble O&R Co., Taylor 15	40	1488
Riner & W. B. Omohundro, Michie 1	125	1784
WILBARGER COUNTY—		
Apple & Brandeberry, Waggoner 1	75	2313
Easter Oil Co.,Waggoner 2-B	240	1932
Lewis Prod. Co., Waggoner 5	25	2417
Shaw Oil Co., Waggoner 4-E	65	2425
YOUNG COUNTY—		
L. G. Bradstreet et al, Snider 4	15	575
Snider 5	20	577
Bratcher et al, Edwards 1	40	456
Edwards 2	50	461
Prideaux 1	35	460
Prideaux 2	30	485
Goldsmith et al, Bishop 1	*	1007
May-Camp Drlg. Co., Prideaux 2	10	569
Moutray Oil Co., Ackers 1	*	4515
Panhandle Ref. Co., et al., Prideaux 14-C	7	660
Pemeta Oil Co., Graham 3	*	2225
Robertson Drlg. Co., Gillmore 2	65	586
Paul Steed & Gaus, Snider 5	*	625
Snider 6	40	589
Snider 7	30	595
Snider 8	35	600
Snider 9	35	582
Snider 10	*	648
Snider 11	20	615
Snider 12	25	575
Womac Oil Co., Stewart 8	10	802

Production Engineering Course Will Be Started

College Station, Texas. — Dean F. C. Bolton of the school of engineering of the A. & M. College of Texas has announced that a course in petroleum production engineering will be started by that school in September, 1929. The course was added at the request of various men prominent in the petroleum industry of the state.

With the new course in effect the college will offer a three-fold phase of instruction for those interested in the petroleum industry: geology, chemical engineering for those interested in the refining business, and petroleum production. Such a rounded-out course of instruction may be found in only a few other universities of the country; among them being Boston Institute of Technology, Tulsa University, the University of Oklahoma, and Stanford University in California.

The petroleum production engineering course, as outlined briefly by Dean Bolton, will include general engineering course with sufficient geologic background that efficient cooperation may be extended to the geologist in the drilling operation. Technical phases of drilling and development operations will be included in the course, with instruction in pipe line operation, natural gas absorption plants, and hydraulics as applied to oil field activity.

The first two years of the course will be offered next September, and other years will be added as the students progress in their work.

Texas Law Would Stop Promiscuous Shooting

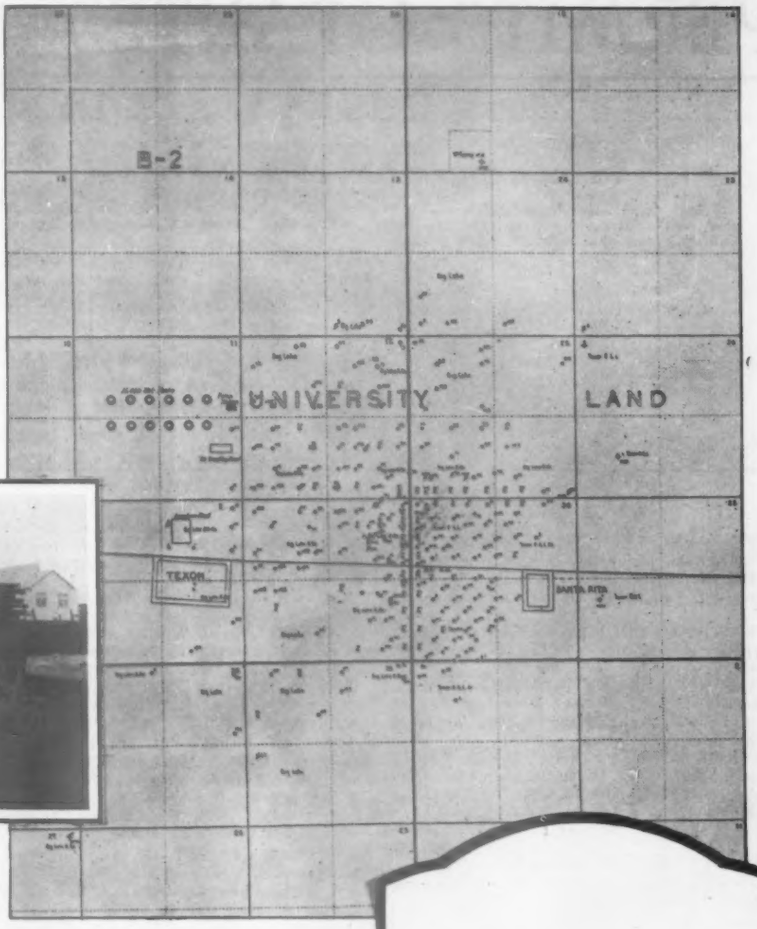
Austin, Texas.—On the basis of the theory that "Any Texas citizen would resent a stranger digging around in his back yard without permission" a bill known as the "priority rights" bill has been presented before the Texas legislature now in session here, has gained a favorable committee report and is awaiting a vote in the senate. It would require that geologists or anyone else shall obtain permission from a land owner before exploring properties and that they shall report their actual findings to the land owners. A heavy penalty is provided in case of violation.

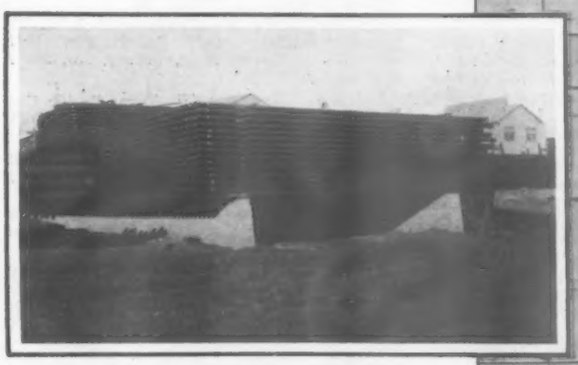
This bill, introduced by Senator Pink Parrish of Lubbock, proposes to further protect fee owners in West Texas, where the author of the bill believes ranchers have been given "unfair treatment by oil operators at a time when they were suffering reverse financial conditions."

Payne County Show

Tulsa.—West of the old Cushing field, The Texas Company's Carden 1, SWc SE Section 32-18-5e, in Payne County, had a good show of oil at 3642-3660 feet and is to be shot. It is thought to be in the Tucker sand.

In Reagan County





The surface of wrought iron tubing being somewhat uneven, grips and anchors the thick galvanizing on its surface with a great tenacity. This, in itself, is responsible for a considerable lengthening of the life of the material.

As the somewhat higher cost of Byers tubing is only in fractional ratio to its life, many producers are specifying Byers Tubing and Casing exclusively for service where a tendency to more or less rapid corrosion of ordinary tubing is observed.

The selection of oil drilling equipment depends largely upon soil conditions, and it therefore becomes necessary to pay special attention to the choice of tubing and casing material in fields showing a highly corrosive influence.

Where sulphide concentration prevails, and ordinary tubing gives way in a very short time, it has been found that genuine Wrought Iron shows a life greatly in excess of any other tubing. This condition is explained by the fact that genuine wrought iron, such as Byers, contains millions of particles of non-corroding silicate slag fibres, which act as natural barriers to the penertation of sulphur compounds. Ordinary tubing, on the other hand, has been seen to corrode rapidly and a little vibration soon is likely to cause failure.

A. M. BYERS COMPANY, *Established 1864*, Pittsburgh, Pa.
Branch Offices: Houston — Dallas — Los Angeles — San Antonio — Tulsa
Distributors: International Supply Co., Jarecki Mfg. Co., Oil Well Supply Co.

BYERS *Galvanized* **TUBING**
GENUINE WROUGHT IRON

Field Report

One prominent producer in this county, with 76 wells in production, has had wrought iron tubing in all the wells for about three years without a sign of corrosion trouble. This is typical of the results which may be obtained from Byers Galvanized Tubing, in spite of the high sulphide concentration in the district.

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountin States:

	Week ending Mar. 9	Previous week	Total this month	Total this year	This week Last Yr.	This month 1928	1928 year total
Arkansas	7	2	9	32	5	10	331
California	35	33	68	306	21	42	1,207
Louisiana	10	21	31	141	21	40	680
Kansas	13	12	25	174	18	32	1,032
Oklahoma	51	49	100	586	92	131	3,744
Texas	146	145	291	1,512	172	321	8,297
Total	262	262	524	2,752	329	576	15,291

ARKANSAS

ST. FRANCIS COUNTY—W. F. Harris, Mariana, Ark., Halbert 1, se c se sw, 32-4-4.

LOGAN COUNTY—Ark. La. Pipe Line Co., Shreveport, La., O. H. Hanna 1, nw c nw ne, 26-7-23.

CRAWFORD COUNTY—Industrial O. & G. Co., Fort Smith, Brownlee 2, nw c nw nw, 22-9-31.

OUACHITA COUNTY—J. E. Crosbie, Inc., Tulsa, Okla., Goodwin 1, ne c ne nw, 13-15-16. La. Oil Ref. Corp., Shreveport, Manley et al 1, se c se se, 15-15-19.

UNION COUNTY—Lion Oil Ref. Co., El Dorado, Ark., A. B. Kelly 2, nw c se se, 9-17-14. Ark. Drilling Co., El Dorado, Ark., McDonald 1, nw c sw nw, 11-17-18.

CALIFORNIA

GOLETA—Padre Oil Co.'s No. 1, (—)-4-29.

KERN COUNTY—George F. Getty, Inc.'s Phelps 1, 29-31-22. The Elmer Oil Co.'s 1, 15-30-30. General Pet. Corp.'s Hensley 3, 22-29-27.

LAWNDALE—Boyd Hammond's Trustee 1, 17-3-14. Richfield Cons. Oil Co.'s Foote 1, 16-3-14. Transpacific Oil Corp.'s Jameson Estle 1, 21-3-14. West Coast Pet. Combinations, Inc.'s 1, 21-3-14. Smith Development Co.'s 4, 30-3-14.

LONG BEACH—A. T. Jergins Syn.'s 4A, 30-4-12. Dabney-Johnston Oil Corp.'s 33, 24-4-13; 34, 24-4-13; 35, 13-4-13. Cal-Mex Oil and Refining Co.'s 25, 19-4-12. Dabney-Johnston Oil Corp.'s 36, 24-4-13.

MERCED COUNTY—Henry L. Kuns' 3, 8-12-14.

MIDWAY—Honolulu Consolidated Oil Co.'s 83, 8-32-24.

MT. POSO—Petroleum Securities Co.'s Glide 10, 21-27-28.

SAN LUIS OBISPO COUNTY—Western Drilling and Producing Co.'s Dollar 1, 2-32-22.

SANTA FE SPRINGS—General Pet. Corp.'s S. F. C. 179-G, 6-3-11; Hill 187-C, 6-3-11; E. G. B. 101-C, 6-3-11; S. F. C. 177-D, 6-3-11; Hill-Midway 104, 6-3-11; Santa Fe 160-C, 5-3-11; Anderson 153-E, 5-3-11. Second Twin Bell Synd.'s 6, 6-3-11. Third Twin Bell Synd.'s 2, 6-3-11. Commodore Pet. Co.'s Babonet 4, 5-3-11; Babonet 5, 5-3-11; Land 4, 5-3-11. Bandini Pet. Co.'s Off 18, 5-3-11; Off 19, 5-3-11.

SEAL BEACH—Marland Oil Co.'s Bixby 20, 11-5-12.

VENTURA—Shell Oil Co.'s Taylor 34, 29-3-23.

TEXAS

ARCHER COUNTY—Gulf Prod. Co., Fort Worth, Alexander 3, G. P. Meade sur, 150 ft from s and w lines. Freeman & Grebbin, Wichita Falls, Easterling 1, G. P. Meade sur, 150 ft from n and e lines. Prairie O. & G. Co., Ranger, Richardson B 26, S 1, S. A. R. sur, 300 ft e of No. 25. A. T. Wolfe & Son, Wichita Falls, Nitchske 1, D.C.S.L. sur, 150 ft from s and w lines. Theo. Harris et al, Wichita Falls, Roller 3, W. C. Watts, 550 ft from n and 150 ft from w line. C. E. Beavers et al, Wichita Falls, Benson 1, 1828 TE&L sur, 150 ft from n and e lines. Texas Co., Wichita Falls, Wilson 1, BBB&C sur, 250 ft from s and e lines. C. U. Beasley, Electra, Abercrombie 2, B 41, Harris sur, 300 ft e of No. 1. Maycamp Drilling Co., Wichita Falls, Prideaux 3, A. Rohus sur, 300 ft no of No. 2. L. T. Burns, Wichita Falls, Turbeville 1F, R. Carson sur, 450 ft from n and 150 ft from w line. Fain-McGaha Oil Corp., Wichita Falls, Logan A 1, J. M. Taylor sur, 200 ft from s and 1800 ft from e line. Madden & Hunt, Olney, Anderson 1, B 8, BBB&C sur, 150 ft from na and 210 ft from e line. Jones & Holcomb, Wichita Falls, Kemp & Kell 5, B 58, Holliday.

AUSTIN COUNTY—Humble, Houston, Buchanan 1, W. C. White sur, 465 ft from sw and 309 ft from nw line; Washington 2, W. C. White sur, 350 ft from ne and 606 ft from se line; Hardy 4, Wm. Smithers sur, 350 ft from sw and 245 ft from se line.

BROWN COUNTY—K. M. Liebhart, Dallas, Lewis 1, J. Kinney sur, 200 ft from s and e lines. Humble, Wichita Falls, Byler 11, S 43, T&NO sur, 150 ft from s and e lines. G. W. McClung, Cisco, Lowe 1, S 138, J. Winn sur, 200 ft from w and 1050 ft from s line. United Royalties Corp., Wichita Falls, Fitzgerald 2, S 160, P. Johnson sur, 460 ft from e and 220 ft from s line. E. T. Green, Brownwood, Riordan 3, C. B. Jennings sur, 360 ft s of No. 2.

BASTROP COUNTY—Texas Co., Houston, Yoast 4, A. Garcia sur, 300 ft e of No. 3.

BEXAR COUNTY—Schimmel Prod. Co., Fort Worth, Gayle 1, B 2, CEPI&M sur, 250 ft from w and 895 ft from s line.

BORDEN COUNTY—Gibson & Johnson, Abilene, Higginbotham 1, S 17, B 31, Twp. 3n, 247 ft se of center of nw line.

CALLAHAN COUNTY—Reiter-Foster Oil Corp., Tulsa, Okla., Hatchett 28, S 24, D&D Asy. sur, 150 ft from n and 450 ft from w line. Gibson & Johnson, Abilene, Snyder 3B, S 142, BBB&C sur, 150 ft from n and e lines; Finley 2, S 68, Bayland Asy. sur, 150 ft from n and w lines. Moutray Oil Co., Abilene, Hickman 38, S 149, BBB&C sur, 75 ft e and 289 ft n of No. 37. V. W. Swoveland, Cisco, Wright 1, S 13, D&D Asy. sur, 150 ft from n and 2760 ft from w line. Moutray Oil Co., Abilene, Hatchett 1B, S 24, D&D Asy. sur, 495 ft from s and 150 ft from w line; Hatchett 15, S 24, D&D Asy. sur, 495 ft from s and 150 ft from w line. M. C. McDonald, Box 365, Putnam, Lobban 27, 2995, TE&L sur.

COCHRANE COUNTY—Marland Prod. Corp., Fort Worth, Slaughter 2, S 130, C.C.S.L. sur, 1650 ft from n and 1071 ft from e line.

CALDWELL COUNTY—Texas Co., Houston, Carter 1, G. Hinds sur, 150 ft from s and e lines; Moore 2, H. Gilbert sur, 600 ft from nw and 1600 ft from sw line. Humble, Houston, Moses-Baggett B 3, S. Shupe sur, 1050 ft from s and 150 ft from e line; Moses-Baggett B 4, S. Shupe sur, 150 ft from e and 1350 ft from s line; J. R. Tiller A 1, J. Hinds sur, 1050 ft from s and 150 ft from w line; J. R. Tiller B1, J. Hinds sur, 1050 ft from s and 150 ft from w line; J. R. Tiller B 2, J. Hinds sur, 200 ft from n and 150 ft from w line; Hanson 1, J. Hinds sur, 450 ft from s and 750 ft from e line. Nash, Windfohr & Perry, Austin, Wilson 4, A. Floyd sur, 200 ft from w and 350 ft from n line. Gulf Prod. Co., Houston, Carter 6, G. Hinds sur, 300 ft w of No. 5; Carter 7, G. Hinds sur, 300 ft e of No. 5. Shell Pet. Corp., Houston, Malone 5, A. Floyd sur, 750 ft from se and 150 ft from sw line; Tiller 8, G. Hinds sur, 750 ft from w and 150 ft from s line; Malone 6, A. Floyd sur, 700 ft from s and e lines.

COLEMAN COUNTY—Canyon O. & G. Co., Inc., Cross Plains, Wesley 1, A. White sur, 150 ft from n and 1428 ft from e line. W. L. Jackson, Burkett, Dancy 1, J. Luckenback sur, 175 ft from n and 450 ft from w line.

CROCKETT COUNTY—West Texas Pet. Corp. & Eppenauer Dr. Co., Rankin, Noelke 1, S 60, BGG sur, ne cor of blk 5.

CARSON COUNTY—Gulf Prod. Corp., Fort Worth, Noel 6, S 198, B 3, I&GN sur, 330 ft from n and 1320 ft from w line.

COOKE COUNTY—Kewannee O. & G. Co., Tulsa, Okla., Lanier A 9, E.T.Ry. sur, 344 ft so of No. 8; Lanier A 19, E.T.Ry. sur, 300 ft s of No. 9.

COMANCHE COUNTY—Texas Pacific Coal & Oil Co., Fort Worth, Kirk 2, S 18, D&D Asy. sur, 660 ft s and w lines.

DUVAL COUNTY—Magnolia Pet. Co., Dallas, Hahl 1, S 250, Rosita Valley sur, 150 ft from n and 750 ft from w line.

ERATH COUNTY—Snebold & White, Mingus, Fuller 1, S. Kelly sur, 1500 ft from n and 450 ft from e line.

EASTLAND COUNTY—Grisham & May, Eastland, Morton 1, S 9, B 4, H&TC sur, 600 ft from e and 500 ft from s line. States Oil Corp., Eastland, McDonald 1, S 7, B 1, H&TC sur, 700 ft from w and 250 ft from s line.

FORT BEND COUNTY—Gulf Prod. Co., Houston, Davis 52, M. Young sur, 409 ft ne of No. 51; Blakely B 17, E. Drew sur 125 ft from s and 50 ft from e line. Humble, Houston, Camp 294 3, Wm. Stafford sur, 525 ft from s and 465 ft from e line.

FANNIN COUNTY—Imperator Oil Corp., Fort Worth, Owens 1, D. Crenshaw sur, 620 ft from e and 220 ft from s line.

GRAY COUNTY—Independent O. & G. Co., Midland, Hollenbeck 1, S 176, B 3, I&GN sur, 330 ft from s and w lines.

GUADALUPE COUNTY—Magnolia Pet. Co., Dallas, Whitney 1, S. Highsmith sur, 300 ft sw of center of ne line. Trinity Drillers, Inc., San Antonio, Baptist Land Mark Assn. 1, J. H. Kuykendall sur, 165 ft from w and 150 ft from s line.

HARRIS COUNTY—Humble, Houston, Williams 1, W. W. Williams sur, 1400 ft from e and 150 ft from n line. Sun Oil Co., Beaumont, Blaffer 46, R. Dunman sur, nw of No. 3. J. F. Barron, Dallas, Fitzsimmons 1, S 51, J. Hamilton sur, 310 ft from s and 25 ft from e line.

HUTCHINSON COUNTY—Amarillo Oil Co., Amarillo, Ingerton A 2, S 41, B 47, H&TC sur, 1650 ft from n and 1072 ft from e line.

HARDIN COUNTY—Ada Belle Oil Co., Batson, Paraffine 127, B 30, J. Knight sur, 127 ft from w and 25 ft from s line.

HOWARD COUNTY—Colorado Co., Iraan, Roberts 5, S 156, B 29, W&NW sur, 150 ft from s and e lines. Cosden & Co., Inc., Fort Worth, Roberts C 3C, S 128, B 29, W&NW sur, 200 ft e of No. 2. Marland Prod. Corp., Fort Worth, Chalk C4, S 140, B 29, W&NW sur, 330 ft from n and 990 ft from e line. Amerada & Rycade Oil Corp., Fort Worth, Roberts 8, S 137, B 29, W&NW sur, 790 ft n of No. 6. Empire G. & F. Co., Wichita Falls, Clay 3, S 127, B 29, W&NW sur, 234 ft from e and 1318 ft from s line.

JEFFERSON COUNTY—M. E. Pivoto, Sour Lake, Gladys 3, B 21, J. A. Veatch sur, 40 ft from e and 8 ft from s line. Yount-Lee Oil Co., Beaumont, McFaddin 96, P. Humphreys sur, 407 ft from w and 260 ft from n line; McFaddin 97, P. Humphreys sur, 707 ft from w and 952 ft from n line. J. Homer Gaddy, Beaumont, Gaddy 1, B 3, T. R. Russel sur, West central.

JACK COUNTY—F. H. E. Oil Co., Sher-

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man, J. M. Box 1, I. Hughson sur, 330 ft from s and e lines.

KLEBERG COUNTY—Humble, Houston, Dennett B 5, KT&I sur, 400 ft n of No. 1.

LIBERTY COUNTY—Empire G. & F. Corp., Beaumont, O'Brien 2, M. G. White sur, 675 ft from w and 75 ft from s line. Deering & Kayser, Houston, Pruitt 4, S 135, H&TC sur, 150 ft e of No. 3. Vacuum Oil Co., Houston, Barrett 11, M. G. White sur, 150 ft from n and 50 ft from w line.

MILAM COUNTY—Texas Pet. Dev. Co., Cameron, Niehaus 16, T. J. Chambers sur, 300 ft se of No. 15.

MATAGORDA COUNTY—West Prod. Co., Houston, Myers 1, Wm. Hadden sur, 100 ft e of center of w line.

MIDLAND COUNTY—Phillips Pet. Corp., Bartlesville, Okla., Stokes 1 S 101, S. Beall sur, 440 ft from n and e lines.

MONTAGUE COUNTY—Texas Co., Wichita Falls, Jones 3, Wm. Donohoo sur, 150 ft from n and w lines of blk 10; Salmon C2, Wm. Zuber sur, 250 ft from n and e lines.

McCULLOCH COUNTY—W. V. Lanning et al, Brady, Walker 1, A. E. Rein sur, center.

McLENNAN COUNTY—O. W. Killam, Laredo, Roach 1, No. 862, T. Toby sur, 150 ft from n and e lines; Bryant 2, No. 682, J. Naler sur, 150 ft from ne and 1760 ft from se line.

NAVARRO COUNTY—W. C. Perryman et al, Kerens, Prince 1, F. Phifer sur, ne corner.

NUECES COUNTY—Agua Dulce O. & G. Co., Auga Dulce, Wolter 1, S 34, Benton sur, west central.

PECOS COUNTY — E. R. Crosby, Fort Worth, Smith 1, S 24, B 194, GC&SF sur, 150 ft from w and 210 ft from n line. Geyer & Frates, San Angelo, Smith 1, S 8, B 145, T&St.L sur, center. McMan Oil & Gas Co., Tulsa, Okla., Smith 5, S 25, B 194, GC&SF sur, 1740 ft from w and 2600 ft from s line.

PRESIDIO COUNTY — Brite Prod. Co., Marfa, Brite 2, S 53, B 12, GH&SA sur, 2200 ft from e and 2500 ft from s line.

PARKER COUNTY — W. P. Chancellor, Graham, Womack 1, W. J. Darden sur, 750 ft from n and 150 ft from e line.

REFUGIO COUNTY—Saxet Gas Co., Corpus Christi, Heard 6, Refugio sur, 150 ft from nw and 750 ft from ne line.

ROBERTSON COUNTY—W. D. Alexander et al, Calvert, Anderson 1, J. Webb sur, 1000 ft from e and 150 ft from n line.

SHACKELFORD COUNTY—Big State Oil Corp., Dallas, Russ-Webb 7, S 22, B 11, T&P sur, 450 ft from s and e lines. Loggie & Arendt Oil Co., Albany, Matthews 1, S 1, B 1, E. T. Ry sur, 450 ft from n and w lines. Midland Oil Co., Fort Worth, Davis 1, S 20, B 13, T&P sur, 150 ft from n and w lines. Roeser & Pendleton and Marland Prod. Corp., Albany, Cook A2, S 88, E. T. Ry sur, 247 ft from n and 1950 ft from w line. A. D. Robinson, Dallas, Blach 5, 372, TE&L sur, 250 ft from sw and 150 ft from se line; 7, same sur, 300 ft sw of No. 5. Tannehill, Kiser & Flemming, Albany, Hill 1, S 2, L.A.L. sur, 1120 ft from n and 200 ft from w line. Moutray Oil Co., Abilene, Smalley 2, 832, TE&LR sur. R. W. Mancill, Cisco, Palm 1, S 44, Blind Asy. sur, 150 ft from n and e lines. Midland Oil Co., Fort Worth, Davis 1, S 20, B 13, T&P sur, 150 ft from n and w lines. Roeser & Pendleton and Marland Prod. Corp., Albany, Cook A88, S 60, E.T. Ry sur, 358 ft w of No. 58; Cook A11, S 83, E.T. Ry sur, 405 ft w of No. 9; Cook A40, S 61, E.T. Ry sur, 377 ft w of No. 31. Hutton Oil Corp., Cisco, Littlefield 12, S 7, L.A.L. sur, 300 ft s of No. 7; 13, same sur, 300 ft ne of No. 7; 14, same sur, 300 ft n of No. 13; 15, same sur, 450 ft from s and e lines. Simms Oil Co., Dallas, Lones 7, S 64, B 11, T&P sur, 1000 ft from w and 1350 ft from n line. Roeser & Pendleton and Phillips Pet. Corp., Albany, Douglas B2, 385, TE&L sur, 300 ft ne of No. 1. Combest Oil Co., Mineral Wells, Matthews 1, S 2, E.T. Ry sur, 150 ft from n and w lines.

STEPHENS COUNTY—Lone Star Gas Co., Dallas, Henry 1, S 53, B 7, T&P sur, 600 ft from w and 1200 ft from s line. Chestnut & Smith Corp., Breckenridge, Storm 1, S 25, A. Marshall sur, 1990 ft from e and 660 ft from s line. Brooks & Hanlon, Breckenridge, Corbett 1, 1094, TE&L sur, 320 ft from s and e lines. States Oil Corp., Eastland, Sikes 1, S 84, B 6, T&P sur.

SAN PATRICIO COUNTY — J. T. La Prade, San Antonio, Odem 1, Herron sur, 1400 ft from w and 1458 ft from s line.

STARR COUNTY—U. S. Gas & Oil Co., 923 West Summitt, San Antonio, Kelsey 1, Por. 76, Blk. 11, 500 ft from nw and 1500 ft from ne line. Texas Co., Houston, Guerra 2040, 3A, Por. 68, Blk. 92, 600 ft w of center of e line.

THROCKMORTON COUNTY—F. C. Morton, Albany, Matthews 1, S 277, E.T. Ry sur, 679 ft from e and 660 ft from s line.

VICTORIA COUNTY—Humble, Houston, Welder 1, DL&C sur, 1634 ft from se and 736 ft from sw line.

WICHITA COUNTY — Kimbell & Boxtic, Burkburnett, Denny 5, W. M. Graves sur, 300 ft e of No. 4. Humble, Wichita Falls, Taylor 16, B 81, W.V.F.L. sur, 300 ft w of No. 10.

WINKLER COUNTY—Dixie & Southern Crude Oil Pur. Co., Wichita Falls, I. Hendrick K6, S 41, B 26, 2200 ft from n and 1650 ft from e line s 41; I. Hendrick U8, S 41, B 26, 1650 ft from e and 1320 ft from e line s 41; U9, 1650 ft e and 200 ft from s line s 41; I. Hendrick O3, S 28, B 26, 440 ft from n and 330 ft from e line s 28; T. G. Hendrick J6, S 9, B B12, 2000 ft from n and 330 ft from e line s 9; J7, 1540 ft from n and 1320 ft from e line s 9. Skelly Oil Co., Tulsa, Leck 1, S 22, B 26, 330 ft from w and 440 ft from s line. T. G. Hendrick 2, S 10, B B12, 1330 ft s of No. 1. Llano Oil Co. and Shell Pet. Corp., Dallas, Scarborough 5, S 3, B C22, 330 ft from s and e lines.

WEBB COUNTY—O. W. Killam, Laredo, Bruni 6, S 3, M. Arispe sur, 1530 ft from ne and 450 ft from se line; Bruni 1, S 5, M. Arispe sur, 53 ft from nw and 100 ft from sw line. Usher Carson, Laredo, Benavides 2, S 1613, Blk. 11, 150 ft from n and w lines.

WHARTON COUNTY — Gulf Prod. Co., Houston. McCarson 12, S. F. Austin sur, se of No. 10. Chase 19, S. F. Austin sur, 168 ft from se and 150 ft from ne line.

LOUISIANA

CALCASIEU PARISH—Vinton Pet. Co., Orange, Tex., Matilda Gray 20 Ac. 2, 33-10s-12w, 180 ft n and 92 ft w of se c sw ne.

DESOTO PARISH—Magnolia, Shreveport, Fortson 4, 4-12n-11w, 660 ft n and 660 ft e of sw c nw.

OUACHITA PARISH—Magnolia, Shreveport, Fee (404) 1, 14-18n-4e, 660 ft s and 560 ft w of ne c ne nw; U. S. A. 3, 18-19n-5e, 660 ft n and 660 ft e of sw c nw.

RICHLAND PARISH—Magnolia, Shreveport, Sartor Co. 1, 5-15-6e, 660 ft s and 660 ft w of ne c nw ne.

ST. LANDRY PARISH—Elbof Explorations, Inc., Houston, Tex., Henry Smith 1, 14-6s-1e, 495 ft n and 990 ft e of center.

ST. MARTIN PARISH—The Texas Co., Shreveport, St. Martin Land Co. Fee 2 25-9s-8e, 300 ft s and 1620 ft w of ne c.

UNION PARISH—Wingfield & Sundby, El-Dorado, Ark., Security Trust Co. 4, 6-23n-1e, 150 ft n and 150 ft w of se c; Imperial O. & G. Products Co., Monroe, Striplin 1, 8-20n-4e, 959 ft w and 361 ft n of se c.

WEBSTER PARISH—Louisiana Oil Refg. Corp., Shreveport, H. G. Gray 8, 28-21n-10w, 1980 ft n and 660 ft w of center.

KANSAS

BUTLER COUNTY—Shell, Ghiesen 1, se sw se, 10-24-3e.

COWLEY COUNTY—Skelly, Saunders, nw ne, 31-31-6e. Independent & Vickers, Youle, ne, 16-32-4e. Lario Oil & Gas Co., Gilke 1, ne sw, 28-34-6e.

DICKINSON COUNTY — T. C. Johnson, Setweiler 1, sw ne nw, 32-16-4e.

GREENWOOD COUNTY — Independent, Sheppard 10, sw se, 2-22-10e. Shell & Swartz, Sheets 4, se nw ne, 23-22-11e.

MARION COUNTY—Darby, Nickel 3, se ne sw, 12-19-2e. Shell, Funk 2, sw nw sw, 7-19-3e. General Utilities, Burkholder 1, csl n½ se, 8-19-3e. Shell, Suderman 1, se ne nw, 12-19-2e.

RILEY COUNTY—General Utilities, Gray 1, ne se, 30-6-6e.

SEDGEWICK COUNTY—Derby Oil Co., Gorman 1, nw se nw sw, 6-26-1e.

OKLAHOMA

BECKHAM COUNTY—White et al, Sheets 1, nw 26-9n-23w.

CARTER COUNTY — Magnolia, Hefner 7, se sw sw, 33-1s-3w.

COTTON COUNTY—Consolidated, Indian 1, ne sw, 11-3s-12w.

CREEK COUNTY—C. G. Tibbens No. 33, owdd, sw ne, 30-15-9e. William Sherry, Sinclair 1, nw ne nw ne, 1-16-11e. Devonian Oil Co. & F. R. Billingslea, Koch 1, se nw ne, 15-17-7e. Mid-Continent, Jackson 5, nw ne se, 15-17-7e. Turman Oil Co., Pemberton 5, sw ne nw nw, 8-17-10e. H. C. Wilson, Bucktrot 6, ne nw nw, 35-17-10e. Elwood & Gilpin, Calvin 1, nw se se, 31-18-11e. C. G. Tibbens, Jackson 5, owdd, se ne sw, 4-18-12e. William Sherry et al, Barnett 1, ne se ne, 24-19-9e. Gled Oil Co., Cares 1, cnl ne sw, 31-19-9e.

GARVIN COUNTY—Gilcrease-Douglas Oil Co., Barnett 1, se nw ne, 36-3n-3w.

HUGHES COUNTY—T. B. Slick, Bruner 6, owdd, nw se nw, 2-9-9e. Fuhrman Oil Co. & Newman, Buck 2, e sw sw, 21-9-10e. Pure, Harrod 1, nw ne ne, 7-8-9e.

KAY COUNTY—D. J. Wilson, Sheer 1, ne sw sw ne, 24-27-1e.

OKMULGEE COUNTY—L. C. Wheeler et al, Stake 1, ne se se, 9-14-12e.

OKLAHOMA COUNTY—Magnolia, Noble 1, nw sw sw, 30-12-2w.

OSAGE COUNTY—Phillips No. 3, sw se se, 2-27-5e. Ohio Osage Oil Co., No. 1a, ne se, 8-21-9e.

POTTAWATOMIE COUNTY—Laurel Oil & Gas Co., Billington 4, nw ne nw, 18-8-5e; Sinclair, Calvin 3, sw se sw, 7-8-5e; Magnolia, Billington 2, ne nw, 22-7-4e. Pierce's Hubanks 1, sw se nw, 17-7-4e. White Eagle O. & R. Co.'s Latimer 1, se sw nw, 16-7-4e. Minnehoma Oil Co.'s Simms 1, sw se 16-7-4e. Atlantic Oil Prod. Co. and Independent's School Land 1, sw ne, 16-7-4e. Amerada's Richardson 2, nw ne sw, 16-7-4e; Richardson 1, ne sw, 16-7-4e. Martin & Erwin's Kelly 1, se ne ne, 2-7-4e.

SEMINOLE COUNTY—T. B. Slick's Reed 1, (owdd) sw, 12-5-7e. McCulloch Oil Co.'s Powell 1, nw, 11-6-5e. I. T. I. O.'s Peterson 1, se sw nw, 24-7-5e. Texas & Independent's Hotulke 2, se, 22-7-6e. T. B. Slick's Wood 1a, ne sw, 26-7-6e; Katie 1, nw, 36-7-6e. Empire's Cluck 7, se nw se, 11-8-5e; Cluck 8, ne sw ne, 11-8-5e. Mid-Continent's Ripley 1, ne, 13-8-5e. T. B. Slick's Crain 2, sw se se, 7-8-5e. Gypsy's Harjo 4, sw ne se, 7-8-6e. Carter's Stewart 1, ne se, 10-9-6e; Community 1, sw nw, 11-9-6e.

STEPHENS COUNTY—Ven-Mex-Mid Continent's Gilworth 2, se ne nw, 2-2s-8w. Magnolia's Peck 3, ne sw ne, 13-2s-8w.

TILLMAN COUNTY—Ridgeway et al's Barnes 1, nw ne, 16-4s-14w. D. O. Long's Sweig 1, c nw, 25-1s-18w.

WAGONER COUNTY—Newhoma Oil Co.'s Orcutt 3a, sw nw nw ne, 35-18-16e.

WOODWARD COUNTY—John Farrand's Belva 2, csl sw se, 2-23-17w.

Royalty Owners Meeting At Shreveport

Tulsa—Mid-Continent Royalty Owners Association will meet in Shreveport on March 25 for the purpose of organizing a Louisiana-Arkansas division.

Wade H. James, president of the Oklahoma-Kansas division, will preside.

Following this meeting, a move will be made to form a Missouri-Illinois division of the association and to have its organization session at St. Louis sometime in April.

Dallas.—Headquarters of the Petroleum Pipe Line Company of Texas, which is operating a crude oil gathering system and tank car rack in the Salt Flats field, Southwest Texas district, and selling oil in tanker lots, has been moved to the thirteenth floor of the Magnolia building in order to obtain larger quarters.

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CATALOG ON REQUEST

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WILDCATS FROM ALL SECTIONS

NORTHERN CALIFORNIA

KERN COUNTY

BELRIDGE—H. J. Bardwell's 1, 24-28-20, making production test, td 1005 ft.

BUTTONWILLOW — Milham Exploration Co.'s No. 1, 8-28-23, completed as 8¶-foot gasser, td 2675 ft.

EDNA—Elmer Oil Co.'s 1, 15-30-30, new lcn.

EDISON — Midway-Northern Oil Co.'s Brown 1, 29-29-30, sd 3750 ft. Symark Oil Co.'s 1, 24-29-29, changing to rotary, td 1190 ft.

GOULD HILLS—Bomka and Ball's Larson 1, 19-29-20, dr brown shale 2323 ft. Elmer Oil Co.'s 1, 2-29-20, dr shale 2035 ft. Ozena Oil Co.'s 1, fsh for tubing 2930 ft.

McKITTRICK—The Texas Co.'s Aldridge 1, 4-30-22, heavy gas flow, td 3650 ft.

RIO BRAVO—Elmer Oil Co.'s 1, 8-28-25, dr gray sand 6100 ft.

SAN EMIDIO—Union's K. C. L. 2, 5-10-21, dr shale 750 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Continental's Franklin 1, dr out cmt, td 3990 ft.

GOLETA — Elwood Consolidated Oil Co.'s Rekar 1, 8-4-29, 4¾-in cas cmt 3300 ft. Sextette Oil Co.'s Langman 1, rigging up rotary.

ORELLA—Shell Oil Co.'s Rutherford 1, 36-5-31, coring hard sand 2133 ft.

POINT ARQUELLO—Standard's Sudden 1, lcn.

POINT CONCEPCION—Standard's Gerber 1, dr shale and sand 535 ft.

SANTA BARBARA—Channell Oil and Development Co.'s Fellowship 1, 29-4-27, ready to sp. Exeter Oil Co.'s Duncan Ranch 1, dr 450 ft. Padre Oil Co.'s Dos Pueblos 1, 8-4-29, rig. Olympic Oil and Refining Co.'s Palisades 1, 29-4-27, rig.

SANTA MARIA — Shell Oil Co.'s Union Sugar 1, 36-10-35, dr brown shale 2340 ft.

TORTUGA CANYON—Standard's Schyvers 1, dr sandy shale 1460 ft.

VENTURA COUNTY

CAMARILLO—American Oil Co.'s 1, 33-2-20, dr basalt 865 ft.

CONEJO—Triunfo Oil Co.'s 1, 24-1-19, dr shale 825 ft.

FILLMORE—Frank Oil Co.'s 1, 35-4-20, dr sand 200 ft. Federal Oil Co.'s Elkins 1, 5-3-19, re-dr 2900 ft.

HUENEME—The Texas Co.'s Barnard 1, rigging rotary.

OJAI—Continental's Fox 1-M, 21-4-22, ur 3700 ft, td 3720 ft; Thompson 1, dr shale 5700 ft. Miley Oil Co.'s Casitas 2-A, dr sand 880 ft.

PIRU—Bolsa Chica Oil Co.'s Snow 1, 4-4-18, dr sand 400 ft. Pacific Western Oil Co.'s Temeschal 5, 3-4-28, dr shale 3545 ft.

SANTA PAULA—W. W. Bryant's Anlauf 3, 21-4-21, dr shale 835 ft.

SATICOY—Standard's Citrus 5, 10-2-22, dr gray sand 4750 ft.

SESPE—The Texas Co.'s McGuire 1, 2-3-19, rig.

SIMI—Shell Oil Co.'s Marr 1, 31-3-17, coring 2121 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, 23-3-21, pumping 100 bbls oil.

MISCELLANEOUS

FRESNO COUNTY—Currency Pet. Co.'s 1, 28-21-14, dr shale 1250 ft. Dudley Ridge Oil Co.'s 1, 12-23-19, gas showings 1100 ft. Hornaday and Huggins' 1, 32-14-28, dr shale 940 ft. Paragon Oil Co.'s 19, 17-19-25, rigging to sp.

MERCED COUNTY—Applegate and Renshaw's 1, 24-6-10, dr shale 2365 ft. Henry L. Kuhns' 3, 8-12-19, new lcn.

MONTEREY COUNTY — Shell Oil Co.'s Dudley 1, 15-22-9, coring shale 750 ft.

SAN LUIS OBISPO COUNTY—Dollar Oil Co.'s H-K 1, 18-31-22, dr 300 ft; No. 1, 7-32-22, dr sand 1140 ft; Vishu 1, 22-32-22, co 1785 ft. Keefe-Morrison's Phelps 1, 18-31-22, dr sandy shale 300 ft. Lincoln Drilling Co.'s 1, 18-32-23, dr shale 500 ft. North Star Oil Co.'s 1, dr sand and shale 3240 ft. Panorama Oil Co.'s 1, 7-31-21, pulling 6¼-in cas, td 3420 ft. Thos. H. Purman's 1, 12-32-22, dr brown shale 1675 ft. See Canyon Oil Co.'s 1, 18-31-12, dr shale 1160 ft. Texas Coal and Oil Co.'s Dutton 1, 25-32-14, fsh 900 ft. Union's Russ 1, re-dr 3175 ft; Chandler 1, co 2900 ft.

TULARE COUNTY—Angiola Development Co.'s 1, 27-22-23, dr gray sand 5000 ft. Big Four Drilling Co.'s 1, 29-23-27, co 4330 ft.

SOUTHERN CALIFORNIA

ATHENS-ROSECRANS — Burlingame Pet. Corp.'s Hamm 1, sd 350 ft.

COSTA MESA—Mesa Pet. Corp.'s B. A. 1, dr 3660 ft.

DOWNEY—Rio Grande Oil Co.'s Osborne 1, dr hard sand 4310 ft.

FULLERTON—Shell Oil Co.'s Stern 1, coring hard sand 6500 ft.

GARDEN GROVE—The Texas Co.'s Crawford 1, dr sand 4026 ft.

HUNTINGTON BEACH—Western Drilling and Producing Co.'s Inskeep 1, sd 4460 ft.

INGLEWOOD—California Eastern Oil Co.'s Pollard 1, running cas for prod. test, td 4180 ft. J. A. Woodward, Jr., dr shale and sand 3300 ft. Ring Pet. Corp.'s Simons 1-A, dr shale and gray sand 4525 ft.

LOS NIETOS—R. W. Jackson's 1, dr 225 ft

MANHATTAN BEACH—Western Drilling and Producing Co.'s C-S 1, dr hard sand 2933 ft.

MAYWOOD—Richfield's Vernon 1, dr sandy shale 5121 ft.

NEWHALL — California Eastern Oil Co.'s Hasley 1, trying to shut off water, td 3210 ft.

POMONA—Pomona Oil Ass'n.'s 1, fsh 975 ft.

PUENTE—Richfield's Didier 1, trying for water shutoff ,td 3435 ft.

TELEGRAPH CANYON—Union's Rimpau 1, new lcn.

RIVERSIDE—Hemet Pet. Co.'s Ward 1, trying for water shutoff, td 3230 ft.

SAN BERNARDINO COUNTY — Mahala Oil and Gas Co.'s 1, installing compressor.

SAN DIEGO COUNTY — S. S. Turner's Baler 1, dr hard sand 1733 ft. Western Pacific Oil Co.'s No. 3, fsh 3375 ft.

IMPERIAL COUNTY — Imperial Valley Pet. Co.'s 1, dr shale and clay 2065 ft.

KANSAS

BARBER COUNTY—Barbara Oil Co.'s Lytle 1, cnl ne ne sw 12-23-13w, sd 5110 ft. Barbara's Blunk 1, c ne nw 20-34-13w, dr 4892 ft. Rolands et al's Pickens 1, ne nw ne 27-30-14w, 8-inch csg 4475 ft. Allison & Fitzwilliams' Morrise 1, c nw se se 9-30-21w, rig.

BUTLER COUNTY—Phillips & Shell's McClellan 1, se sw 23-26-6e, rig. LaRobb et al's Bronsenger 1, ne se 24-27-3e, ru. Shell's Penner 1, nw ne 10-24-3e, rig.

CHASE COUNTY—Grisner & Fowler's Carson 1, ne ne 9-21-7e, sd 3150. Hawlkey et al's Ryan 1, nwc ne 22-19-8e, sd 225.

COWLEY COUNTY—Pyle & Sutter's Lindstrum 1, se ne 9-25-4e, sd 3380. Wakefield & Osborne's Osborne 1, nw ne 18-30-3e, d 815. Producers Oil Co.'s Jones 1, c sw ne se 31-26-2e, rig.

EDWARDS COUNTY — Amerada-Wilcox, Teansil 1, nw cor 32-25-19w, ur 6-inch csg 4445 ft. British-American Oil Co.'s McCarty 1, ne nw 31-25-17w, fsh 2870 ft.

DICKINSON COUNTY—T. C. Johnson's Detweiler 1, swc ne nw 32-16-4e, spd.

ELLIS COUNTY—Rush Oil Co.'s Gatewood 1, nw 4-15-20w, sd 1100 ft. Finney & Weimer's Freeman 1, nw se se 24-15-20w, spd and sd. Brown's Gestner, nw se nw 13-13-18w, d 1350 ft. Empire's Wann 1, ne 31-12-19w, sd 3850 ft. Brouck's Wagner 1, c se se 35-15-16w, sd 2790 ft. Phillips' Brull 1, c nw 34-14-17w, d 3644 ft; Phillips' Schmeidler 1, nw cor 20-12-17w, fsh 1685 ft. Labette Oil Co.'s Nrbank 1, ne nw nw 19-15-16w, d 3790 ft. Cosby et al's Robbins 1, sw nw 15-14-16w, ru. Phillips' Johnson 1, sw ne 9-13-19w, d 1187 ft. Prairie's Weiland 1, c se se 1-13-18w, rig. Phillips' Dechant 1, ne se 12-13-16w, spd.

GREENWOOD COUNTY—P. H. Balieu's Bright 1, ne sw 22-27-1e, sd 1210.

HARPER COUNTY—Amerada's Mendiville 1, c se se 24-34-6w, d 4225 ft new hole.

HARVEY COUNTY—Margaret Gay Oil Co.'s Grouse 1, nw ne nw 29-23-1w, sd 2100 ft. Helmerick & Payne's Lindamood 1, c sw ne sw 2-22-1e, d 2170 ft. Empire's Tangeman 1, c sw ne ne 19-22-1e, d 2515 ft. R. F. Garland's Cox 1, ne cor 27-24-1w, d 2776 ft. Austin's Neiman 1, swc 21-24-2e, hfw 3291 ft. Hartman & Skaer & White Eagle's Seaman 1, cnw ne se 26-24-1e, rig. Roth & Fauret's Bombrowsky 1, nwc 26-22-1e, ru. Jolly & Ogg's Randau 1, nec 11-24-1w, d 1300 ft. Patton et al's Buning 1, cse sw ne 18-24-1e, r.o.g. Jolly & Ogg's Hupp 1, se ne 22-23-1n, r.o.g. Fisher & Lanck's Regier 1, nw ne 17-23-2e, d 2370 ft.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nw sw sw 19-10-17e, sd.

LANE COUNTY—Blankenship Pet. Co.'c Shaeffer 1, nec ne 24-16-28w, sd, spd.

MARION COUNTY—Connell & Prairie's Zirak 1, se sw 3-18-3e, d 280 ft. Meyer's Papp 1, sw ne 10-18-2e, spd. Hartman & Skaer & White Eagle's Kline 1, ne nw 28-18-3e, d 1990 ft. Hanna's Pankratz 1, ne ne sw 13-20-3e, rig.

MARSHALL COUNTY—Irwin et al's Cooper 1, ne nw 10-3-7e, spd.

MORRIS COUNTY—Hiatt et al's Blythe 1, nw ne 35-15-5e, spd.

McPHERSON COUNTY—McPherson County Gas Co.'s Stein 1, sw ne sw 17-18-1w. Ted Washabaugh's Vosshell 1, ne ne 9-21-3w, ur 8-inch csg 2558 ft. Lariaux et al's Martinan 1, ne se 9-19-3w, rig. Mid Kansas' Yoder 1, c nw sw 8-20-4w, ur 8-inch csg. Helmerich & Payne's Rusen 1, c ne se sw 23-21-2w, rig.

NESS COUNTY—Barnsdall's Lauck 1, c sw 35-18-21k, 10-inch csg 2500 ft.

OTTAWA COUNTY—Anderson et al's Bank 1, ne nw 28-10-2w.

OSAGE COUNTY—Papoose Oil Co.'s Evans 1, sw nw nw 34-18-14e.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel ne ne 31-21-16w, sd 1560 ft.

PHILLIPS COUNTY—Watsonian Oil Co.'s Marklein 1, ne sw 21-3-19w. Watsonian & British-American's Weinman 1, c sw sw 34-2-19w, d 985 ft.

RICE COUNTY—Allison & Fitzwilliams' Poland 1, ne sw ne 36-19-8w. Higgins & Steinbuble's Shurr 1, ne sw 21-20-10w, sd 1820 ft ½M gas.

RUSH COUNTY—Danciger O. & R. Co.'s Pinonka 1, c ne sw ne 17-19-17w, d 775 ft. Sinclair's Beiching 1, nw ne nw 9-16-16w, ur 6-inch csg. Central Commercial's Brack 1, nec sw sw 12-17-16w, spd and sd. Phillips' Legleiter 1, c ne nw se 10-16-18w, d 1345 ft. Bransdall's Brock 1, c se se 21-17-17w, rig. Danciger's Swindt 1, c sw se sw 22-17-17w, r.o.g.

SALINE COUNTY—M. Esty et al's Peterson 1, c ne 6-16-5w, spd and sd. Nathan-Jones et al's Robertson 1, nw sw 27-14-2w, 4 3135 ft.

SEDGWICK COUNTY—Magnolia's Wise 1, nwc 36-28-1w, d 1890. La Fonte et al's Carlton 1, sec sw 24-28-1e. Barnsdall's Samuels 1, ne

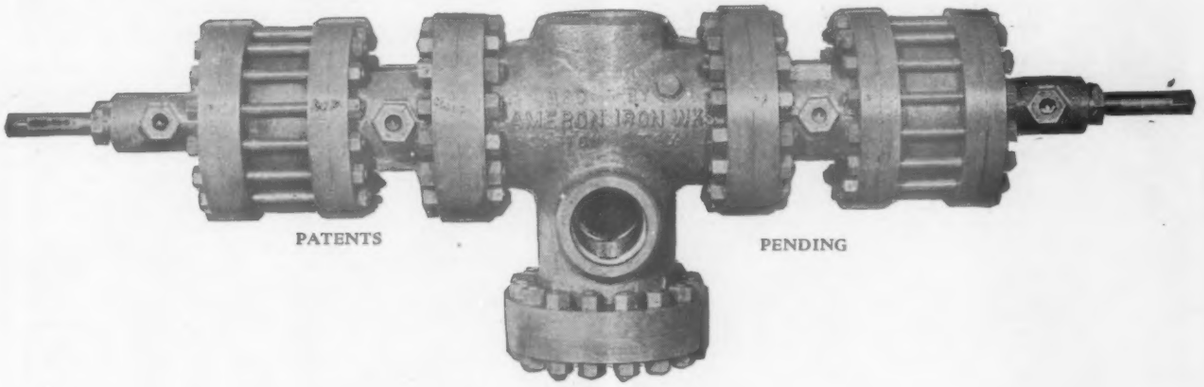
ABBREVIATIONS

NOTE—The following is the explanation of abreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

CAMERON IRON WORKS

STEAM OPERATED

BLOWOUT PREVENTERS



Easily Control the Highest Gas Pressures!

THE C-I-W Steam Operated Blowout Preventer is the fastest closing, tightest locking—and strongest preventer you can put on your well.

Its concave rams closing around the drill stem form a circle of steel against steel through which the couplings cannot pass, while the patented packing in the rams prevents gasses or other substances from escaping.

A single valve located at any convenient point from the well controls the steam chambers which instantaneously close the rams.

You can drill through the preventer, and bring your well in under pressure by means of flow line openings below rams. Preventer will take a bit as large as casing allows. Rams are interchangeable in the preventer when size of drill stem is changed.

These preventers are tested and GUARANTEED to withstand 2500 pounds pressure per square inch.

CAMERON IRON WORKS

MFGRS. OF OIL WELL SUPPLIES & FISHING TOOLS

HOUSTON, TEXAS

nw 24-25-1e, 115 bbls oil 15 bbls water; Barnsdall's Faber 1, sw ne 6-27-1w, d 3770 ft. Morgan & Tilley's Fitzgerald 1, nw ne 5-26-1w, d 650 ft. Van Zandt & Mason's Fox 1, c nw sw 19-25-1w, d and a 3504 hfw. Connell Oil Co.'s Cross 1, ne cor 27-25-1w, d 3622 ft. Hawkin's Muffit 1, c sw 4-25-2w, rig. Morgan et al's Corn 1, sw ne 28-25-1w, d 2877 ft. Kyser et al's Stroot 1, sw nw 28-26-1w, ur 6-inch 2900 ft. H. H. Patton's Ryder 1, nec 22-25-1e, ur 8-inch csg 2475 ft. Lario & Blair's Tjaden 1, c ne se 22-29-2w, sd 2200 ft. Maglason's Buckles 1, nw se 3-28-1w, sd 250 ft. Ramsey's Schuessler 1, swc 1-25-1e, d 2442 ft. McCulloch et al's John 1, c ne sw ne 24-29-1e, sd 3520 ft. Miller & Wentz's Schaeffer 1, nw ne 9-27-2w, d 690 ft. Lewis et al's Taylor 1, nw ne 23-27-2e, d 1825. Shawver et al's Reeves 1, c se sw se 19-28-1e, d 2755 ft. Austin Drlg. Co.'s Stuckey 1, sw nw 12-26-5w, bldg rig. Washbaugh's Harrison 1, c nw ne ne 3-26-2w, rig. Hammond & Stout's Roeder 1, sw nw 23-27-2w, timbers. Connell & Slick's Mahannah 1, c ne se se 3-25-1w, spd. Sullivan's et al's Shelly 1, c nw ne se 32-29-2e, ur. Reynold's & Rogers' Updegraft 1, c se sw se 26-25-1w, rig. Patton & Wentz's Swanson 1, nw ne 6-26-2e, rig. Tatlock et al's Cook 1, swc 25-28-2e, ru.

SHERMAN COUNTY—A. L. Hanson et al's Murray 1, ne se nw 22-7-40w, sd.

SMITH COUNTY—Mid-Kansas' Lambert 1, nec 4-2s-13w, d 2320 ft.

STEPHENS COUNTY—W. Sidwell et al's Kelly 1, sw ne 16-34-38w, d 1310 ft. Trees Oil Co.'s unknown 1, sw ne sw 3-35-38w, fsg 430 ft. McKenna et al's Hamm 1, se ne 10-33-38w 6-inch at 2579 ft.

SUMNER COUNTY—Gypsy's Williams 1, nw se sw 16-35-3w, fsg 4437 ft, 3 mgos. Davidson et al's Strickland 1, sw se 12-35-1w, rig. Marland's Curry 1, nwc sw 26-34-2e, rig.

TREGO COUNTY—Central Commercial Oil Co.'s Ellis 1, ne sw ne 20-13-21w, sd 3300 ft.

WASHINGTON COUNTY—McCool & Vincent's Linn 1, nw ne 27-4-3e, ru.

OKLAHOMA

WOODS COUNTY—T 28n, R 18w, Sec. 11, Geo. Vincent et al's Freedom 1, c sw, Ponds for deep test, abn.

GRANT COUNTY—T 28n, R 3w, Sec. 24, Lario O. & G. Co. et al's Conneil 1, nwc, Layton 3540-3680 HFW.

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair's Share 1, c ne sw; rig.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent & Nat'l Union's McNeal 1, nw cor ne; sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil Co.'s Cooper 1, nwc se; sd 4182 ft. blk in litigation.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu-Vi-Bar et al's 1, sec sw, 4208 ft, rigging up standard.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden's Vollner 2, nec se ne sw; Lost tools 5640 ft, sd.

CIMARRON COUNT—T 5n, R 5e, Sec. 22, Magnolia's School Land 1, c se ne; dlg 1265 ft.

WOODWARD COUNTY — T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, sec; sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller and other's Copenhaven 1, nwc; spudded & sd.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, Washoma Oil Co.'s Acre 1, swc ne; rig.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, sec nw; sd 4755 ft.

WOODWARD COUNTY—T 23n, R 20w, Sec. 9, Billy Oil Co.'s Wyatt 1, c se; dlg 3075 ft.

MAJOR COUNTY—T 23n, R 16w, Sec. 4, Wilson et al's 1, nec sw; spudding.

WOODWARD COUNTY — T 21n, R 19w, Sec. 15, Burgoyne Bros.'s 1, swc se ne; sd 1950 ft.

WOODWARD COUNTY—T 21n, R 21w, Sec. 25, Sharon's Elmore 1, swc; sd 3025 ft, rig down.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keller et al's Horton 1, c ne ne; spudded & sd.

GARFIELD COUNTY—T 20n, R 4w, Sec. 9, Marland's Looman 1, nec se; sd 5735 ft, csg parted. Sec. 12, Marland's Miller 1, swc; sd 4586 ft.

DEWEY COUNTY—T 18n, R 15w, Sec. 9, Huckleby & McCoy's Perfect 1, nec, sd 4500 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drlg. Co.'s Quier 1, sec sw; sd.

KINGFISHER COUNTY—T 16n, R 6w, Sec. 27, Crawford & McKenna's Sturgeon 1, sec sw; sd 4875 ft.

BLAINE COUNTY—T 15n, R 12w, Sec. 26, W. J. Donley's Dickens 1, sec nw; sd 4509 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spear's Piatt 1, sec ne; sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 3w, Sec. 18, Slick & Bailey's Lufkin 1, c ne se; 5120 ft, UR 5-in csg. T 12n, R 3w, Sec. 15. Cromwell et al's Thompson 1, sec ne ne, fishg 7182 ft.

OSAGE COUNTY—T 22n, R 8e, Sec. 8, Harry McGill's No. 1, sw c se; show 2335-49 ft, sd 2688 ft.

PAWNEE COUNTY—T 22n, R 5e, Sec. 33, Washoma Oil Co.'s Buffalo 1, sec nw; 3812 ft, PB to 3200 ft testing.

LINCOLN COUNTY—T 16n, R 4e, Sec. 15, J. V. Bailey et al's House 1, c ne se; td 3660 ft, fishg tools. T 16n, R 5e, Sec. 2, L. C. Wheeler & W. K. Mote et al's Wilfe 1, nwc ne sw; cemty 8-in 2702 ft. T 16n, R 6e, Sec. 19, Flynn & Morgan's Finely 1, swc, R.O.G. T 12n, R 3e, Sec. 29, Phillips' Robertson 1, sec nw; rig.

MUSKOGEE COUNTY—T 13n, R 18e, Sec. 33, L. T. Haynie's Linder 1, c se; sd 2368 ft.

McINTOSH COUNTY—T 12n, R 18e, Sec. 15, A. B. Wolfe et al's Beck 1, nwc se; spudded & sd.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, swc nw se; Wilcox 5443-73, drlg.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co.'s Sanders 1, nwc ne sw; sd 1800 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O. & G. Co.'s Murray 1, swc; 1½M gas 2518-22 ft, sd 2831 ft.

OKFUSKEE COUNTY—T 11n, R 7e, Sec. 21, T. B. Slick's Wolfe 1, sec ne se; dlg 4435 ft.

SEMINOLE COUNTY—T 11n, R 7e, Sec. 34, Phillips' Mills 1, nwc sw; dlg 4426 ft, HFW.

CLEVELAND COUNTY — T 10n, R 2w, Sec. 8, Slick and Phillips' Sudik 1, c ne ne; drlg 5140 ft.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 16, McCulloch et al's Lincoln 1, sec nw; drlg 925 ft. T 10n, R 7e, Sec. 5, Marland Oil Company's Strothers 1, nwc se ne; drlg 4700 ft.

POTTAWATOMIE COUNTY—T 9n, R 5e, Sec. 30, Magnolia Pet. Co.'s Germany 1, sec nw; 4395 ft testing. T 8n, R 2e, Sec. 24, Superior Oil Corp.'s Jones 1, swc nw ne; dry & abn 5516 ft. T 8n, R 3e, Sec. 12, T. B. Slick's Nix 1, sec nw nw; cemtg 8-in 4600 ft.

SEMINOLE COUNTY—T 8n, R 8e, Sec. 4, McCulloch's McGilbray 1, swc ne; sand 3285-3325 ft, rig burned.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner State Oil Co.'s Vandeveer, nec nw sw; sd 3120 ft. T 6n, R 4e, Sec. 19, Rush & Baughm's Laster 1, sec ne ne; drlg 2230 ft.

PONTOTOC COUNTY—T 5n, R 4e, Sec. 36, Denver P. & R. Co.'s Roberts 1, sec ne ne, drlg 710 ft.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney's Huddleston 1, sec sw; 3400 ft, sd.

PONTOTOC COUNTY—T 4n, R 8e, Sec. 23, Independent's Hampton 1, nec se; 20-in csg 545 ft.

PITTSBURG COUNTY—T 4n, R 12e, Sec. 32, Kerr & Key's Rall 1, c nw nw, 12-in at 1000 ft.

COAL COUNTY—T 2n, R 8e, Sec. 6, Cosden's Richardson 1, nwc ne ne; spud & sd.

MURRAY COUNTY—T 1n, R 2e, Sec. 17, Revels & McGee's Wolfe 1, nwc; sd 1850 ft.

GARVIN COUNTY—T 1n, R 3e, Sec. 32, Ramsey's Malickey 1, c sw ne; fishg 1292 ft.

COAL COUNTY—T 1n, R 9e, Sec. 24, Galbreath et al's Jones 1, swc se; fishg 3350 ft.

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt's Wellman 1, c se; sd 100 ft.

ROGER MILLS COUNTY—T 11n, R 26w, Sec. 4, L. C. Hivick's Davis 1, c nw ne; sd 700 ft. T 8n, R 22w, Sec. 20, Carson et al's Denby 1, swc se ne; td 1172 ft. T 8n, R 21w, Sec. 23, Day Oil Co.'s Ault 1, c nw nw; drlg by tools 1508 ft.

KIOWA COUNTY—T 7n, R 17w, Sec. 34, G. B. Cloyes' Bristle 1, swc ne; drlg 1120 ft. T 7n, R 15w, Sec. 35, David Malernee's Van Kirkland 1, nwc; sd 858 ft, flowing sulphur water.

CADDO COUNTY—T 6n, R 12w, Sec. 29, W. J. Hartley's Galbreath 1, sec nw se; (OWDD) sd 3394 ft.

JACKSON COUNTY—T 1n, 20w, Sec. 4, Houseman et al's Northington 1, nec; sd 2020 ft.

KIOWA COUNTY—T 1n, R 17w, Sec. 13, Allen Bros.' Howell 1, nwc se; sd 599 show oil.

STEPHENS COUNTY—T 1n, R 7w, Sec. 2, Stahl & Burris' Jefferson 1, sec ne nw; sd 3012 ft.

COTTON COUNTY—T 1s, R 11w, Sec. 34, Shasta Oil Co.'s Indian 1, nec; sd 1650 ft.

STEPHENS COUNTY—T 1s, R 7w, Sec. 12, Ilsing, Russell & Nance's Houston 1, nec sw sw; sd 2501 ft.

KIOWA COUNTY—T 2s, R 16w, Sec. 6, Landfair's 1, se csw se; 2535 sd.

COTTON COUNTY—T 2s, R 12w, Sec. 31, Pearce & Brown's Heitzler 1, sec nw; sd 2452 ft.

TILLMAN COUNTY—T 3s, R 18w, Sec. 29, Dixie Oil Co.'s Harrison 1, nec nw; drlg 3165 ft.

COTTON COUNTY—T 3s, R 10w, Sec. 11, E. J. Stumpf's Jones 1, nws ne; location.

STEPHENS COUNTY—T 3s, R 8w, Sec. 26, E. J. Stumpf's Simmons 1, swc; drlg 2160 ft.

COTTON COUNTY—T 4s, R 12w, Sec. 16, Guiler & Dyson's Thomas 1, sec sw; sd 2127 ft.

JOHNSTON COUNTY—T 1s, R 7e, Sec. 29, Smitty-Kinsley's Lane 1, sec nw; sd 1306 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Tex-Okla Drlg. So.'s Anderson 1, sec ne se; sd 350 ft. T 5s, R 3w, Sec. 19, Devonian Oil Co.'s Myer 1, nwc se; 2950 ft.

BRYAN COUNTY—T 9s, R 9e, Sec. 36, W. J. Endicott's Craig 1, c nw ne; drlg 1140 ft.

ARKANSAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
UNION COUNTY—		
Calgo Oil Co., Primm 1, 9-18-17....	*	4385
Gulf Ref. Co., T. J. Woodley 1, 6-18-14	*	3622

ASHLEY COUNTY—Atlantic O. P. Co.'s Bledsoe 1, 20-15-7, wo 2554 ft. Texas Co.'s Keiffer 1, 11-18-4, dr rock 3244 ft.

CALHOUN COUNTY—Joe Hurley's Ark. Land & Timber 1, 29-16-12, dr 3295 ft.

CLARK COUNTY—Wm. Henry, Tr.'s Clark 1, 34-9-21, sd 1385 ft.

CRAWFORD COUNTY—Industrial O. & G. Co.'s Brownlee 2, 22-9-31, lcn.

CHICOT COUNTY—W. S. Smith's Meyer 1, 19-19-2, sd wo 850 ft. Crawford's Cashion 1, 14-18-2, ds stuck 2330 ft.

COLUMBIA COUNTY—G. W. Dawley et al's Fullenwider & Kitchen 1, 12-17-22, sd wo 2847 ft.

DALLAS COUNTY — Robt. H. Dedman's Hillman 1, 20-10-13, temp abn, td 1145 ft.

DREW COUNTY—Ohio Oil Co.'s Jerome Lbr. Co. 1, 13-15-4, cemtd 8-inch csg 1620 ft.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Stermer 1, 17-4-13, temp abn, td 3462 ft.

FRANKLIN COUNTY — Ozark Nat. Gas Co.'s McElroy 1, 15-8-27, lcn.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, dr cable tools, td 2960 ft. Chaywood Oil Co.'s Malvern Lbr. Co. 1, 17-2-17, old well cleaned at 1665 ft, wo. Helena O. & G. Co.'s Pickler 1, 19-19-22, formerly owned by Van Hazen Synd., dr 900 ft.

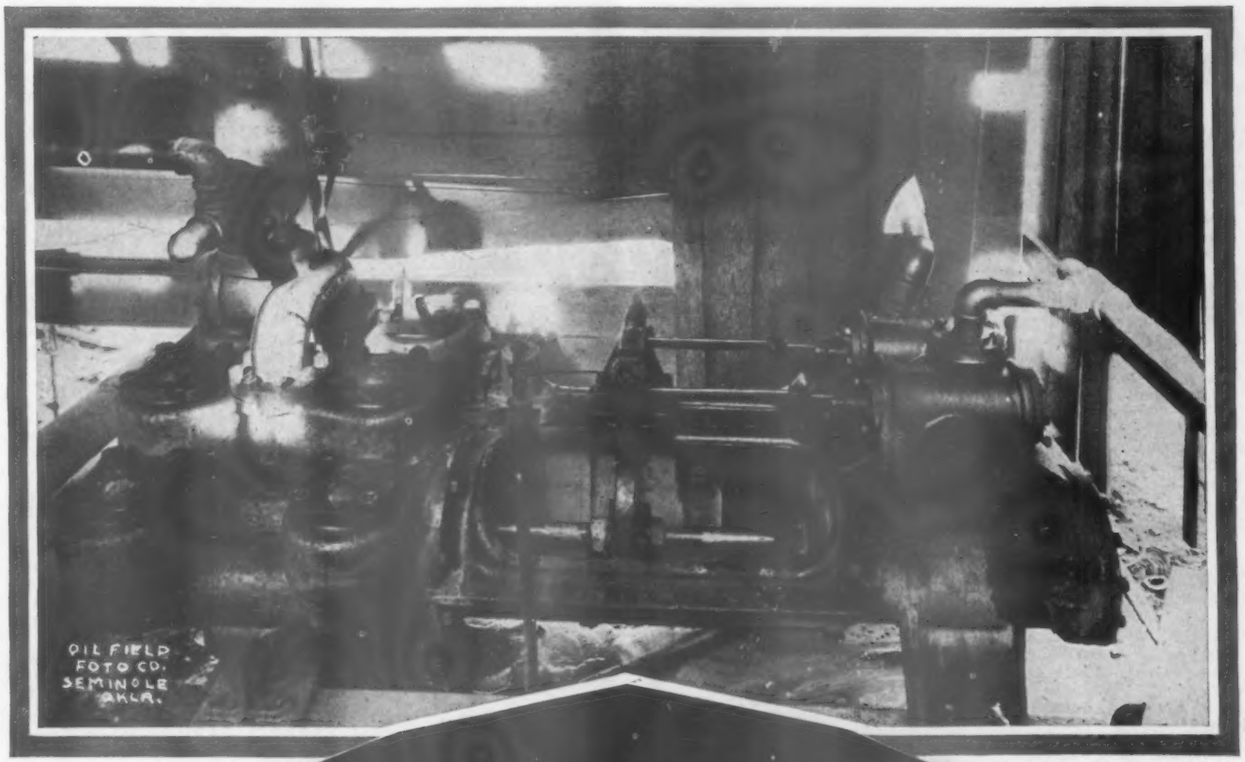
GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, sd 1400 ft.

JOHNSON COUNTY — Ark. Nat. Gas Corp.'s Bynum 2, 12-10-24, dr 2028 ft. McPherson 1, 10-10-24, tested seven million ft gas 2430-37 ft, set 8-inch casing with packer, dr with cable tools hard lime at 2453 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 21-12-13w, sd 2941 ft.

LOGAN COUNTY — Ark. La. Pipe Line Co.'s Hanna 1, 26-7-23, lcn. Ark. Nat. Gas

A Bigger Pump to Handle Mud



at Smaller Cost

To handle rotary mud at smaller cost, Gardner-Denver introduced a bigger booster pump. This 14½ x 7¼ x 20 GARDNER Super Booster performs efficiently under the high pressures now used. Brute size, correct design and fine materials insure dependable service.

GARDNER-DENVER COMPANY
QUINCY, ILL.

BRANCHES IN OIL FIELDS

Tulsa	Los Angeles	Dallas	San Francisco	Chicago
Houston	Philadelphia	Denver	London, England	New York

OIL COUNTRY DISTRIBUTORS

Atlas Supply Company	Muskogee, Tulsa, Fort Worth
C. F. Camp Co.	Tulsa
Emsco Derrick & Equipment Co.	6811 So. Alameda St., Los Angeles
Haywood-Williamson	Shreveport and El Dorado
International Supply Co.	Stores In All Principal Mid Continent Fields
Norvell-Wilder Hardware Co.	Beaumont, Houston and Fort Worth
The Republic Supply Co. of California	Stores In All Principal California Oil Fields

GARDNER-DENVER

Say you saw it in The OIL WEEKLY

Corp.'s W. H. Park 1, 26-8-24, waiting on 5 3/16-inch csg, td 4220 ft.

MILLER COUNTY — E. A. Martin Tr.'s Dale 4, 23-15-26, reaming to bottom, 3250 ft.

OUACHITA PARISH—Little Fay Oil Co.'s Goodwin 1, 13-15-16, dr 2419 ft. McDonald Bros.' Wilson 1, 25-15-18, swabbing after well made several small heads oil no sw, standing 2650 ft in oil, td 2828 ft. Charles McDonald's Wilson 1, 25-15-18, cemtd 6⅝-inch csg 2854 ft, sd 2866 ft. Flaucher et al's Buck 1, 7-15-17, cemtd 10-inch csg 62 ft.

ST. FRANCIS COUNTY — W. F. Harris' Halbert 1, 32-4-4, lcn.

UNION COUNTY—E. L. Foster et al's Smith 1, 8-16-17, lcn. La. Oil Ref. Corp.'s Manley 1, 15-15-19, coring 1650 ft. Frank Foster et al's McDonald 1, 11-17-18, dr 2061 ft. Foster et al's Murphy Land Co. 1, 22-17-17, sd 1400 ft. J. O. Moore, Tr.'s Union Sawmill Co. 1, 11-18-12, sd bad roads, td 187 ft. Cater Bell et al's Terrell 1, 27-18-14, sd wo 2594 ft. Calgo Oil Co.'s Primm 1, 9-18-17, dry, abn, td 4385 ft. J. P. Hawkins et al's Goodwin 1, 6-17-15, sd 1204 ft. McDonald Bros.' Mayfield 1, 29-19-15, sd wo 1990 ft. Frazier et al's Laney 1, 30-19-16, dk pat. Standard Oil Co. of La.'s J. R. Burns 5, 31-17-15, arr pump td 2207 ft. Goodwin 6, 36-17-16, dk. Grimes Bros.' Hill 2, 7-18-14, rig up wo. J. C. Marcum's DeYambert 1, 5-19-4, topped red beds 3131 ft, dr 3159 ft. Gulf Ref. Co.'s T. J. Woodley 1, 6-18-14, dry abn, td 3622 ft. Rosa L. Cook 1, 1-18-15, lcn.

MOUNTAIN STATES

WYOMING

Completion

Ohio Oil Co., Pulley 1, 27-53-101.. 45 4780

BIG HORN—P. & R. 3, 24-56-98, sd 2709 ft. Prairie O. & G. Co., Chilcote 1, 35-56n-95w, sd 2580 ft. P. & R. South Frannie 1, 7-57-97, prep to run pipe at 1950 ft. J. E. Scanlon et a, 11 19-51n-92w, try form so 2600 ft.

CARBON—P. & R., 2-19-88, sd 4003 ft.

FREMONT—P. & R. Muskrat 2, nw 1-33n-92w, lcn. Gates & Holman, 6-33-94, no report. Kinney-Coastal 1, 22-3n-1w, sd for repairs 1200 ft.

HOT SPRINGS—Texas Prod. Co., sw 45n-100w, dr 1480 ft.

LINCOLN—Midwest Refining Co., Waterfall 1, 35-22-115, dr 2550 ft.

PARK—California Exploration Co. and P. & R., Pitchfork 1, 12-48n-102w, cem 20-in at 225 ft. Midwest Rosenburg 36, 25-58-98, dr 1195 ft. Midwest, Kirk 1, se 23-58n-98w, prep to pull 15¾-in at 1490 ft. Cody Pet. Co. 1, ne 4-51n-102w, dr depth unknown. Oregon-Wyoming Oil Co., 30-52n-101w, resum dr at 1030 ft. Ohio Oil Co., Pulley 1, 27-53-101, pump 45 bbls.

SWEETWATER—Mtn. Fuel Supply Co., Tucker 1, 18-13-99, sd 2480 ft. Mtn. Fuel Supply Co., Humphreys 1, 2-12-101, dr below 2450 ft.

SUBLETTE—California Co., Wyss 1, 12-32n-115w, dr 1499 ft. California Co., Buchell 1, 11-29-115, sd 2505 ft, bad storm.

UINTA—California Co., U. P. 1, 7-17-118w, sd 2770 ft.

WESTON—Continental Oil Co. 1, 11-45-64, will deepen from 1000 ft.

NEW MEXICO

CHAVES—Snowden & McSweeney, Merchant 1, ne 27-15s-23e, dr 3905 ft. R. T. Neal et al, Russell 1, 21-14-25e, dr 1500 ft. Warman et al 1, sw 23-13s-24e, sd. Tannehill et al, Butler 1, se 15-12s-24e, dr 810 ft. Transcontinental, Robert 1, 1-14s-28e, dr 420 ft.

DE BACA—Matador Oil Co., State 1, sw 6-4n-20e, straight hole 630 ft. Pittsburg Oil Co. 1, ne 16-1s-27e, dr 4192 ft. Transcontinental, McWhorter 1, 6-35-22e, dr 3405 ft.

GUADALUPE—Hanchett Oil Co. 2, 14-8n-24e, dr 2300 ft.

LEA—Midwest, Capps 31, sw 3-19s-39e, rigged. Midwest, Farnsworth 19, 12-26-37e, dr 3892 ft. Midwest, Farnsworth 13C, 13-26-36e, dr 2810 ft. Marland, Reed 1, 22-20s-36e, dr 4060 ft. Marland, Myers 1, 26-20s-37e, dr 3915 ft. Marland, Warren 1, 29-20s-36e, dr 3985 ft. Marland, Lockhart 1, 31-21s-36e, oil show 3972 ft. Gypsy Oil Co., Mattern 1, 24-21s-36e, dr 1210 ft. Exploration Co., Record 1, 26-19s-35e, td 4556 ft. Morton et al, State 1, ne 32-11s-38e, dr 1665 ft. Texas, Lynch 1, se 34-20-34, dr 2175 ft. Texas, Sheppard 1, ne 2-26s-37e, spray oil 3230 ft, tools lost. Texas, Moberly 1, se 17-26e-37e, fsh 3540 ft. Curtis Drlg. Co., Nixon 1, 22-18s-34e, sd 1150 ft. Cranfill & Reynolds, Wilson 1, ne 23-25s-36e, dr 1200 ft. Skelly Oil Co., Joiner 1, se 26-25s-36e, wtg for pipe line connection. Empire Gas & Fuel Co., State 1A, nw 12-21s-34e, dr 4027 ft. Texas Pacific Coal & Oil, State 1, sw 22-23s-35e, dr 3225 ft. Henderson et al, McDonald 1, se 18-20s-34e, fsh 1515 ft. Vacuum Oil Co. 1, 14-17-34, dr 1175 ft. Bardages et al, Hughes 1, 27-19s-38e, co 4012 ft. Pueblo Oil Co., Scott 1, se 29-25s-37e, dr 400 ft.

McKINLEY—J. W. Halsell, Santa Fe 1, 17-18n-9w, td 1032 ft.

ROOSEVELT—J. T. Keegan et al, Pepper 1, 6-1s-36e, ready to sp. Smith & Sloan, Lovern 1, se 4-3s-35, sp to 61 ft.

SAN JUAN—Continental Oil Co., Munoz 17, 2-29-19, dr 6508 ft. Dorothy Oil Co., 29-30-9, fsh tools 712 ft. Fuerfano Oil Co., Wiltbank 1, 25-29-11, td 800 ft. San Juan Pet. Co. 1, 9-29-13, sd 2950 ft. Kirtland Drlg. Co., Hunt 1, 10-29-15, td 450 ft. Kutz Canon O. & G. Co., Day 1, 29-28-11, dr 722 ft. Blackrock Oil Co. 1, sw 11-25s-13w, sd temp 1550 ft. Iowa Oil Synd., Viles 2, 28-29-11, cemt back to 694 ft. Angel Peaks Oil Co., Kutz Canon 1, 11-28n-11w, dr 1895 ft. Great Mesa Oil Corp., Roderick 1, sw 11-22n-14w, sd 215 ft. Milwaukee-N. M. Synd., Beardsley 1, 30-28n-11w, prep to resume, 1100 ft. Childers D. & P. Co., Westwater 2, nw 24-31-16w, fsh liner 2100 ft.

SAN MIGUEL—E. Adams et al, Deason 1, 14-15n-16e, sd 1235 ft. Benedict-Wilson 1, ne 25-17n-16e, sd 800 ft.

SOCORO—Arnold et al 2, ne 13-6s-1w, run 6⅝-in at 1400 ft.

TORRANCE—Bluhall O. & G. Co., 20-6n-10e, sd 1735 ft. Hall et al, Pinos Wells 1, sw 25-3n-13e, sd 400 ft. Sinnock et al, Gutchin 1, ne 13-7n-7e, sp to 100 ft and sd.

VALENCIA—Rio Puerco Oil Co., N. M.-Ariz Oil Land Co. 2, nw 13-6n-2w, wait pipe 3145 ft. Acme Oil Co., N. M.-Ariz Land Co. 1, 26-6n-3w, ur 6⅝-in., td 3650 ft.

COLORADO

ARCHULETA—Juanita Oil Co., Harvey 1, sw 4-32n-3w, sd 735 ft, bad weather.

BENT—Marland Oil Co., Pipe Springs 1, se 27-29s-49w, sd for winter 3987 ft.

ELBERT—Progressive O. & L. Co., Pease 1, sw 27-10s-60w, sp 70 ft.

JACKSON—P. & R., State 1, ne 2-6n-81w, sd for winter 1900 ft.

JEFFERSON—Ruby Hill O. & G. Co., Braden 1, se 14-4s-69w, dr 1065 ft.

LAS ANIMAS—Parker Club, Kinney-Coastal 1, se 4-28s-68w, dr 1415 ft. Oklahoma-Colorado O. & G. Co., Doherty 1, sw 32-34-60w, dr 655 ft.

LARMIER—Barrows et al, 7-11n-68w, sd 2000 ft.

LA PLATA—Royal P. R. Co., Red Mesa 1, 27-33n-12w, sd 650 ft, bad roads.

LINCOLN—Kelly Oil Co., State 1, ne 36-14s-57w, sdtr bit td 1542 ft.

MESA—Peerless Oil Co., Hoel 1, ne 23-8s-104, co 2058 ft, gas show. Parrish & Langston, D. & R. G. Western 1, nw 23-1s-1w, dr 100 ft.

MORGAN—Badger Creek O. & G. Co., Kent 1, sw 2-50n-10, sd 800 ft.

MOFFAT—Mtn. Fuel Supply Co., State 1, 16-12-100, fsh 3585 ft, td 3600 ft. McLaughlin et al, Wms 1, 2-3n-91w, 8¼-in cemt at 3255 ft, td 3265 ft. McCormick et al, Sales 2, se 28-4n-92w, sp to 15 ft and sd for the winter.

MONTROSE—Uncompaghre O. & G. Co., Colorado Title & Trust Co. 1, 27-10w, prep to run cas, td 1477 ft.

PUEBLO—Rozella Oil Co., Shaw 1, 3-22s-63w, litigation, td 1190 ft. Christopher Oil Synd., Stanbeck 1, nw 19-22s-63w, sp 35 ft. Christy-McCormick-Frantz Synd., Mannerick 1, sw 34-21s-63w, sp 25 ft. Windle et al, Alber 1, se 6-22s-63w, prep to sp.

RIO BLANCO—White Eagle O. & R. Co., Forsham 1, sw 9-2s-86w, sdtr lost bit, td 519 ft.

YUMA—Major Pet., Inc., sw 7-2s-43, crooked hole, may skid rig, td 1475 ft.

WELD—Platte Valley Pet. Corp., Patterson 1, sw 24-6n-61w, sd 4180 ft.

NORTH LOUISIANA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CLAIBORNE PARISH—		
Dixie Oil Co., Gilbert 1, 27-21-5w...	*	5034
MADISON PARISH—		
Mid-American Pet. Co., Yerger 2, 51-21-5w	*	285

BIENVILLE PARISH — W. P. Wallace's State 1, 16-16-10, dr 2410 ft.

BOSSIER PARISH—Big Ben Oil Co.'s Stewart 2, 15-18-12, sd wo 1300 ft. Nell & Lanier's Biedenharn 1, 23-21-14, sd 50 ft. Walker et al's Antrim 1, 28-22-14, sd 2985 ft. John F. Woodman's Bolinger 1, 9-22-11, dr 2060 ft. Magnolia Pet. Co.'s B. M. Cook 1, 2-22-11, coring hard sand showing oil 2688 ft. Sallie Coyle 1, 2-22-11, dk.

CADDO PARISH—D. C. R. Oil Co.'s Hunter Est. 1, 17-19-14, tested show sw and gas 1940 ft sd sandy shale 2017 ft.

CATAHOULA PARISH—Lochnager O. & G. Co.'s Taliaferro 1, 26-9-6e, sd 900 ft.

CLAIBORNE PARISH — Dixie Oil Co.'s Gilbert 1, 27-21-5w, junked abn td 5034 ft. El Dorado Chief Oil Co.'s Baker 1, 26-20-7, dr sandy shale 2930 ft. Smitherman & McDonald's Miller 1, 17-23-8, washing hole after set lin 4780 ft.

DE SOTO PARISH — Benedum & Trees' Mahoney 1, 22-14-12, dr hard chalk 1415 ft. Nicholson 1, 2-15-14, dr sandy shale 1340 ft. P. J. Becker's Tull 1, 23-12-15, moving in rig. Benson O. & G. Co.'s Jackson 1, 3-10-13, rig up. Luke Case, Tr.'s Boatright 1, 3-10-13, dr 2300 ft. Carlton Drilling Co.'s Stephens 2, 12-11-16, sd 2046 ft. R. O. Roy's Sample 1, 1-13-14, sd 2310 ft. Thorn Oil Co.'s Burford 1, 22-14-14, sd 3020 ft. Longstreet Synd's Ramsey 1, 33-13-16, fsgh pipe, td 2802 ft. DeSoto Synd.'s Holmes 1, 20-13-16, 10-inch csg 60 ft, dr 850 ft; Williams 1, 29-13-16, rig up.

EAST CARROLL PARISH—Palmer Corp.'s O'Brien 2, 6-19-11e, rig up.

FRANKLIN PARISH—Davis et al's Moore 1, 12-11-6e, sd wo 1430 ft.

GRANT PARISH—Carter & Collins' Ball Lbr. Co. 1, 29-7-1w, coring 1128 ft. Hardtner & Tannehill's 1, 9-6-1w, drk. Moffitt et al's Ball Lbr. Co. 1, 29-7-1w, lcn.

LINCOLN PARISH—V. E. Shaw's Voss 1, 1-20-3w, 8-inch csg set to test gas show 915 ft.

MOREHOUSE PARISH—Rainbow Oil Co.'s Louisville Cooperage 1, 33-22-8e, drk. Woodley & Collins' Harp 1, 22-22-7e, sd in rock 1885 ft.

NATCHITOCHES PARISH—Robeline O. & G. Co.'s Cassady 1, 7-8-9w, repr rig, td 2700 ft. S. D. McDaniels' Morse-Clarke Lbr. Co. 2, 23-5-6w, 12½-inch csg set at 118 ft dr 500 ft.

OUACHITA PARISH—Ouachita Nat. Gas Corp.'s D'Arbonne B-2, 25-19-2e, sd 3349 ft. Phillips et al's School Fee 1, 16-16-4e, dr 3160 ft.

RAPIDES PARISH—G. E. Silbertson's Willemach 3, 13-5n-4w, sd 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, sd 3850 ft.

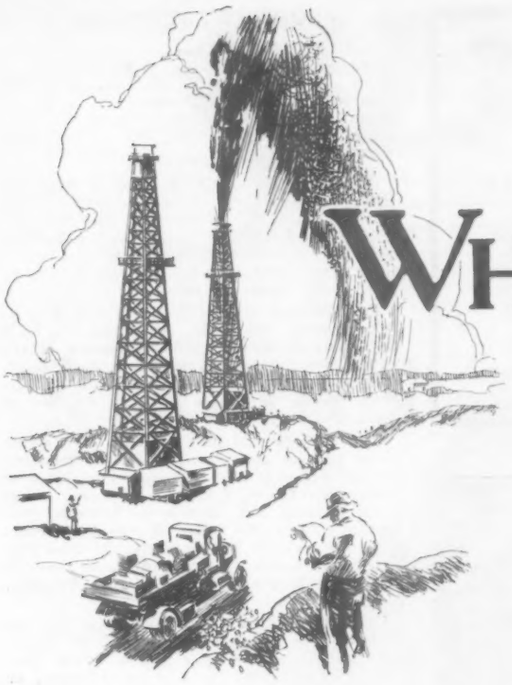
RICHLAND PARISH—Richland Operating Co.'s S. R. Humble 1, 30-16-7e, set 12-inch csg 196 ft. S. C. Wilson's Buie 1, 17-15-7e, set 8-inch csg 910 ft.

SABINE PARISH—R. L. Gay, Tr.'s Bowman-Hicks 2, 14-7-14, dr 2300 ft. Sabine Lbr. Co. 1, 13-7-14, dr 2650 ft. Long Bell Lbr. Co. 1, 26-8-14, drk. W. J. Garnier's Bowman-Hicks 1, 16-7-12, sd 625 ft.

TENSAS PARISH—Enochs et al's Curry 1, 39-11-12e, sd 3583 ft.

UNION PARISH—Sundby et al's Security Trust 1, 6-23-1e, sd 2100 ft. G. E. Carmatte's Tugwell 2, 21-22-1e, cored shale show oil 1845 ft. Carter & Wingfield's Clark A-3, 8-23-1e, drk; Hudson 2, 7-23-1e, sd wo 2278 ft; Hudson 3, 7-23-1e, sd wo 2278 ft; Security Trust 2, 7-23-1e, lcn. H. C. McDonald's Union Sawmill 2, 18-23-1e, sd 1500 ft.

WEBSTER PARISH—P. Hudson's Slack 1, 1-22-11, lcn. Nemours Corp.'s Munn 1, 1-22-10-lcn. J. W. Clark, Tr.'s Mayfield 2, 20-23-9, cemtd 6⅝-inch csg 2760 ft. Magnolia Pet. Co.'s Atkins 1, 4-22-9, lcn. Danman 1, 1-22-11, cemtd 5¾-inch csg 2715 ft. Harry Morris' Lewis 1, 15-23-9, sd wo 2902 ft. John F. Woodman's Boyd 1, 3-22-11, drk.



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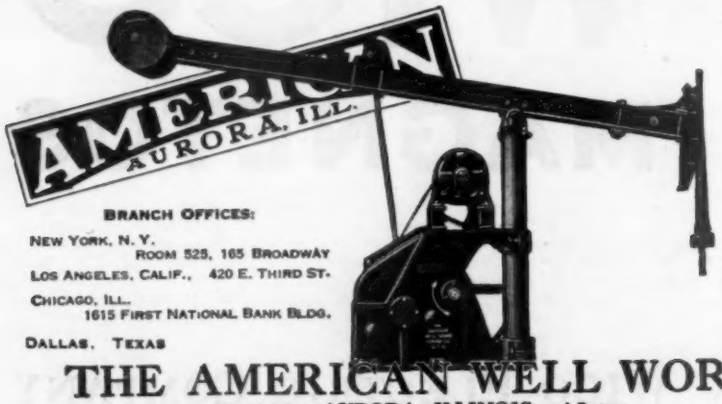

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SOUTHWEST TEXAS

BASTROP COUNTY—
Owens et al, White 1, 2 mi w Cedar Creek . . . . . * 2143
GONZALES COUNTY—
Cranfill & Reynolds, Webb 1, Ottine area . . . . . * 4281

BASTROP COUNTY—Cranfill & Reynolds' Day 1, Cedar Creek townsite. Gypsy Prod. Co.'s Lottman 1, e Bastrop, td 2145 ft. Livingston et al's McCall 1, wo 1 mi s Bastrop, fsh 1050 ft. Owens et al's White 1, 2 mi w Cedar Creek, abn 2143 ft; Goodman 1, 1½ mi from Cedar Creek, sd 382 ft.

CALDWELL COUNTY—Shell's Wilhms 1, Jolly district, temp abn, lcn. Sun Oil Co.'s Barrett 1, dr 1685 ft chalk. Anderson et al's J. P. Horner 1, sd 850 ft. Alexander Smith's Gomillion 1, dr 450 ft gbo. Cranfill & Reynolds' Smith 1, Lytton Springs, dr 1200 ft shale.

GONZALES COUNTY—Greene et al's Dix 1, sw part of county, depth 665 ft, repairing pumps. Flynn et al's Wilhouser 1, sw part of county, sd 5212 ft. Cranfill & Reynolds' Webb 1, Ottine area, abn 4281 ft in Edwards lime. Empire G. & F. Co.'s San Marcos River State 1, Ottine area, dr 3686 ft chalk. Indiana Pet. Corp.'s Karnstadt 1, Ottine area, dr 3903 ft chalk. Joe Bruner's Miller 1, 1 mi n Waelder, rigged up.

GUADALUPE COUNTY—Christie et al's Thomas 1, near Prairie Lea, sd 1227 ft. Sights et al's Woehler 1, 4 mi e Seguin, coring 1965 ft. Miller Bros.' Spring 1, 5 mi s Seguin, dr 2180 ft. Trinity Drillers' Church Land 1, Kingsbury, sd 1950 ft.

JIM HOGG COUNTY—The Texas Co.'s Vela 1, sect. 582, blk 52, dr 300 ft.

MAVERICK COUNTY—Rycade Oil Corp.'s Chittim 4, 20 mi e Eagle Pass, ru; Sullivan 4, 20 mi e Eagle Pass, bldg rig; Chittim 3, 20 mi e Eagle Pass, came in for 150 bbls by heads at 3207 ft.

STARR COUNTY—The Texas Co.'s Virginia Guerra 1, ru.

TEXAS GULF COAST

COLORADO COUNTY—
Humble, Herder 1-A, Altair . . . . . * 804
JEFFERSON COUNTY—
Westbury Synd., West 1, 1 mi Westbury . . . . . * 2740

AUSTIN COUNTY—Humble and Valley's R. Dietrich 2, Raccoon Bend, dr 1974 ft shale; Raccoon Bend, lcn; A. Grawunder C-1, Rac-Snell 1, Raccoon Bend, lcn; Washington B-1, ccon Bend, prep to pump at 3388 ft; Sherrill 1, Raccoon Bend, dr 2798 ft shale; Buchanan 1, Raccoon Bend, ru; E. Washington A-2, Raccoon Bend, ru; Hardy 3, Raccoon Bend, dr 526 ft shale; Hardy 4, lcn; Urban 3, Raccoon Bend, dr 2430 ft sandy shale; Roy Thompson 3, Raccoon Bend, dr 1061 ft hard sand; J. W. Wilson 1, Raccoon Bend, dr 2675 ft sand; E. Kearns 2, Raccoon Bend, dr 2848 ft shale; E. B. Wilson 3, Raccoon Bend, dr 1078 ft sand; E. Grawunder D-1, Raccoon Bend, rock; Sanders 2, Raccoon Bend, dr 189 ft sand and bldrs. Flanagan & Mewis' Mewis 1, w of Raccoon Bend, ru.

BRAZORIA COUNTY—Meyer et al's Davidson 2, Clemens Dome, bailed dry and now sd 942 ft. Shell Pet. Corp.'s Allen 5, Allen Dome, abn 5035 ft; Reese 3, Allen Dome, dr 4940 ft sticky shale and lime. Humphreys Corp.'s Bryan 1, Bryan Heights, dr 1980 ft lime rock. Empire G. & F. Co.'s Brock 2, Stratton Ridge, dr 3642 ft lime.

CALHOUN COUNTY—Baker & Thompson's Thomas 1, 9 mi w Pt. Lavaca, cleaning out at 2390 ft.

CHAMBERS COUNTY—Pure Oil Co.'s Mayes 1, Lost Lake, dr 2067 ft sand, shale; Lost Lake 2, Lost Lake, dr 4032 ft cap rock. Gulf's Wilborn 1, Hankamer, dr 5010 ft shale. Mills Bennett Prod. Co.'s Smith 2, Barbers Hill, e side, ru; Kirby 2, Barbers Hill, e side, td 6010 ft; E. W. Barber 1, Barbers Hill, dr 1559 ft gbo. Mills Bennett-Republic Prod. Co.'s Means 1, Barbers Hill, e side, dr 4450 ft shale. Humphreys Corp.'s Barber 1, Barbers Hill, e side, completed for 2300 bbls at 5194 ft; Kirby B-6, Barbers Hill, e side, ru again, td 5809 ft.

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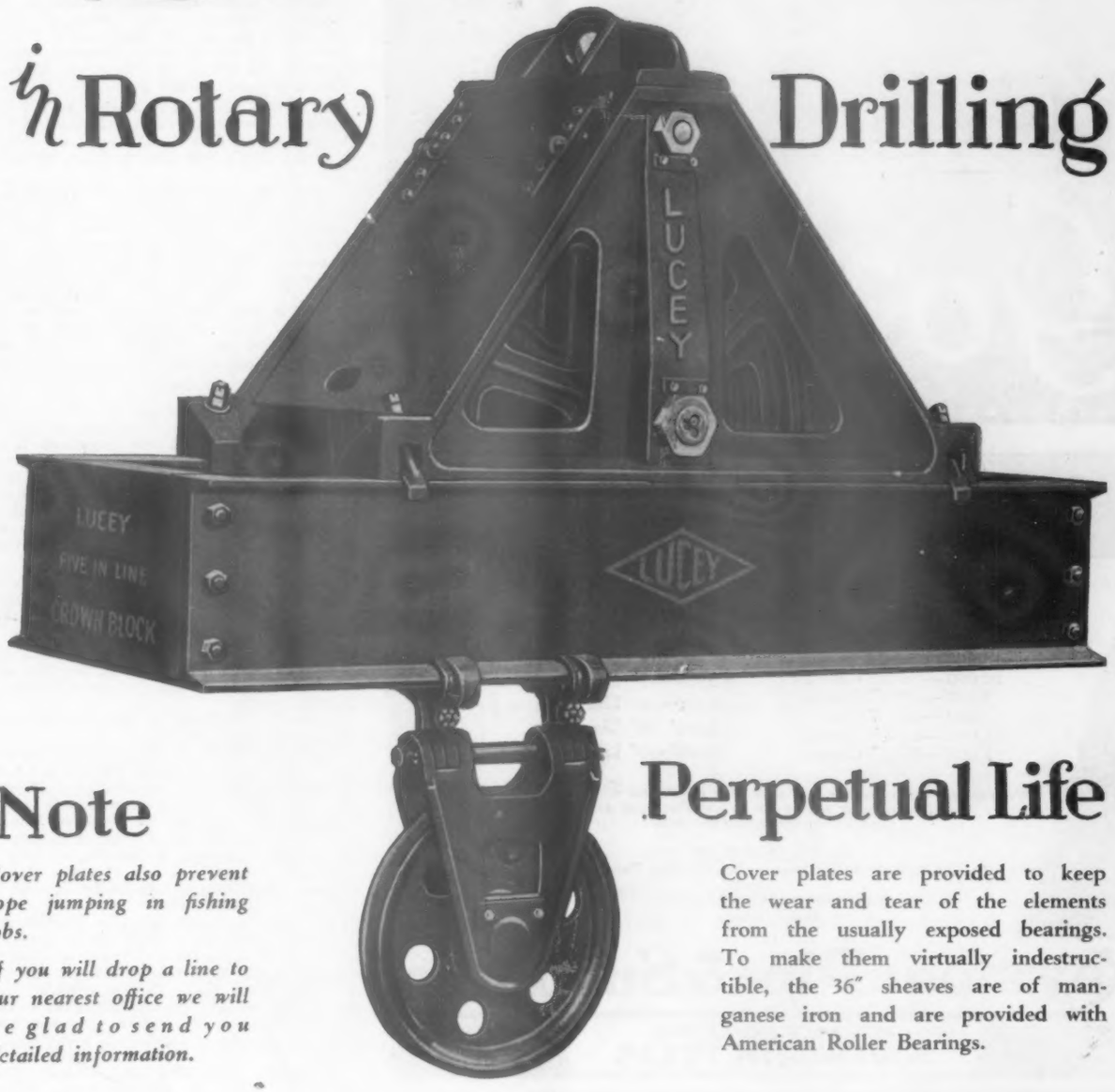

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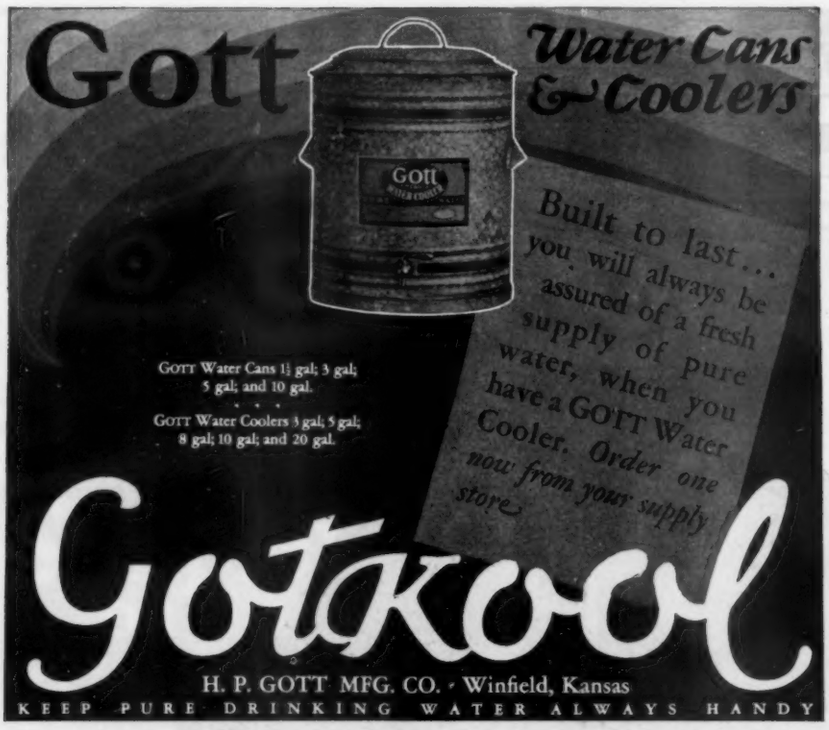
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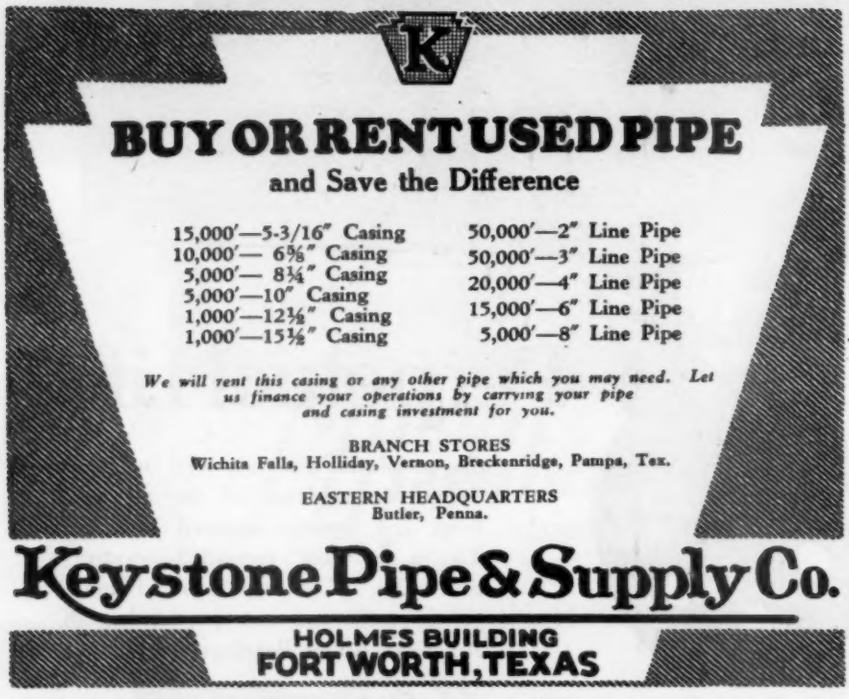
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Mike Kouri's Shaw 1, Barbers Hill, e side, prep to pump at 2070 ft. Joe Bashara's Tarbutton 1, Barbers Hill, e side, dr 5000 ft lime rock. Sun Oil Co.'s Chambers Co. Agricultural Assn 1, Barbers Hill, e side, dr 2730 ft gbo and lime. Gulf's Fisher Fee 1, Barbers Hill, s side, dr 3425 ft gbo and lime. Cedar Bayou Oil Co.'s Fitzgerald 1, Barbers Hill, sw side, cavity 870 ft. Yount-Lee Oil Co.'s Chambers Co. Agricul Co. 2, Barbers Hill, sw side, dr 3730 ft gbo and lime; No. 3, dr 3325 ft gbo and lime; Richardson 4, Barbers Hill, sw side, dr 1935 ft sand and lime.

COLORADO COUNTY—Rich Oil Corp.'s Brun 1, 3 mi ne Columbus, sd 1215 ft. The Texas Co.'s Kveton 1, Cat Springs, dr 1600 ft lime. Shell Pet. Corp.'s Neundorff 1, 1 mi ne Bernado, dr 350 ft shale. Humble's Harder 1, Altair, abn 804 ft. Merrett et al's Everck 1, 2 mi e Ellinger, sd 320 ft.

FAYETTE COUNTY—Phalen et al's Cervanca 1, 6 mi s La Grange, dr 3682 ft lime. Moore et al's Kerr 1, Muldoon, sd 2078 ft. National Oil Co.'s Melcher 1, Plum, dr 2200 ft shale.

FORT BEND COUNTY—Sun Oil Co.'s E. C. Farmer 4, Boling, td 3895 ft; H. R. Farmer 4, Boling, drk; Rodgers 2, Boling, bailed oil and salt water at 4040 ft, pulling screen. The Texas Co.'s Dippel B-1, Boling, dr 3550 ft sand and shale; Dippel A-1, Boling, dr 3740 ft gbo; Pleasants 1, Boling, dr 350 ft; E. C. Farmer 2, dr 2630 ft shale; Wheat 4, Big Creek, dr 1785 ft. Gulf's Moore 18, Moore's Field, dr 3180 ft gbo; Wolf 14, Long Point, dr 600 ft sand and shale. Boling Dome Oil Corp's Armstrong 1, Boling, dr 4300 ft shale. Humble's Brazos Farm 2, Sugarland, dr 3177 ft sandy shale; Brazos Farm 3, Sugarland, dr 3206 ft sandy shale; Brazos Farm 4, Sugarland, dr 1254 ft rock; Brazos Farm 5, ru; Sugarland Industries 5, Sugarland, dr 3422 ft shale; Sugarland Ind. 6, Sugarland, dr 1008 ft gbo and lime; Nelson 2, Sugarland, dr 523 ft; Camp 2, Sugarland, completed for 1500 bbls at 3610 ft; Bankers Mtge 1, Sugarland, dr 1823 ft gbo and shale. South Tex. Exploration Co.'s Hartfield 1, Needville, dr 6015 ft shale.

GALVESTON COUNTY—Long et al's Irvin & Bishop 1, 2 mi s Dickinson, sd 4322 ft. Republic Prod. Ct.'s Lobit 1, 1 mi nw Dickinson, dr 4262 ft shale.

GOLIAD COUNTY—Booth & McCarson's Murray 1, B 11, R 3, Goliad, dr 1230 gbo. Alexander et al's Frame 1, 8 mi n Goliad, dr 720 ft.

HARDIN COUNTY — Guedry Drlg. Co.'s Guedry 1, 3 mi s Batson, drk.

HARRIS COUNTY—Torsen et al's Stewart 1, 4 mi sw Genoa, sd 691 ft. Hunt et al's Lobit 1, 4 mi n Goose Creek, sd 2145 ft. Baldwin & Neyland's Kitzman 1, 2 mi n Cypress, cored limey shale with slight oil show at 3656 ft. Humble's Simms-Smith 75, Goose Creek, dr 3046 ft gbo; Warren 5, Hockley, dr 3033 ft shale and lime; Minnetex 1, Mykawa, dr 5705 ft shale. Paxton et al's Brubacker 1, 1 mi ne Clodine, sd 1125 ft. Paxton & Pundit's Brown 1, ru. South Tex. Pet. Co.'s Hicks-Higbee 1, near Almeda, dr 4235 ft sand; Morris 3, se part of Humble field, set cas at 4080 over sand showing oil. Little York Oil Co.'s Davis 1, Little York, dr 2000 ft sand. The Texas Co.'s House 22, Humble, dr 4235 ft sand and shale; Stevenson 39, Humble, dr 3245 ft gbo and lime. Brains et al's Lentze 1, 4 mi s Tom Ball, d 1120 ft.

JACKSON COUNTY—The Texas Co.'s Moore 1, Edna, dr 3335 ft lime. Wright Bros.' Drushell 8, Edna, drk; Classen 2, Edna, sd 3945 ft.

JEFFERSON COUNTY—Deep Test Oil Corp.'s Faith McFaddin 1, 1¼ mi e of Spindle Top production, dr sand and shale at 3505 ft. J. W. Farhar et al's Rohwedder 1, 5 mi ne Beaumont, dr 2685 ft gbo. Beaumont Oil Co.'s Tyrrell 1, 2 mi w Brooks, drk. Westbury Synd.'s West 1, 1 mi ne Westbury. abn at 2740 ft. River Oil Co.'s Ship Channel Ld. Co. 1, 2 mi se Beaumont, dr 1417 ft sand. Bleakie Oil Co.'s Tollivar 1, 2½ mi nw Voth, will re-set screen at 1560 ft. The Texas Co.'s Pipkin & Davis No. 1, Big Hill, dr 4975 ft. Gulf's Thomas 11, Fannett, dr 1745 ft; Bordages A-7, dr 1150 ft. Yount-Lee Oil Co.'s Nona Mills 1, 5 mi s Beaumont, dr 3075 ft gbo.

LAVACA COUNTY—The Texas Co.'s Russeck 1, 6 mi s Ezell, dr 3330 ft.

LIBERTY COUNTY—Barlow et al's Hinchdliff 1, 2½ mi ne Cleveland, sd 2215 ft. Kouri

Aluminum Paint

PROTECTS OIL IN TRANSIT, TOO

Aluminum Painted oil tank car of the Bolene Refining Company, Enid, Oklahoma.

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For Aluminum Paint, which has been saving countless barrels of oil by reducing evaporation in field tanks, is now being employed just as successfully to protect oil in transit.

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The pigment base for the better grades of Aluminum Paint is ALBRON made of pure ALCOA Aluminum.

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ALUMINUM PAINT
"IT LEAFS"

ALBRON ALUMINUM BRONZE POWDER
TRADE MARK

et al's Campbell 1, 6 mi s Cleveland, sd 2000 ft. Big Dome Interests' Finley 2, 3 mi nw Hardin, drk. The Texas Co.'s Davis 2, Davis Hill, dr 2830 ft gbo and lime. Humble's Sterling 3, Moss Bluff, dr 430-ft gbo. Sun Oil Co.'s Kovleika 1, N. Dayton, tested salt and sulphur water 4680 ft. Union Explo. Co.'s Esperson 2, 2 mi s Sheeks, dr 3502 ft gbo. Tan Bay Oil Co.'s Christian 1, 10 mi n Hardin, sd 1115 ft.

MATAGORDA COUNTY—Crossland et al's Hawkins 1, Shepherds Mott, dr 3802 ft sand and shale. Rycade Oil Corp.'s Hudson-Humble 4, Markham, dr 1485 sand and shale. Dr. P. S. Griffith's Culver 1, e Citrus Grove, sd 3215 ft; Baer 1, 1½ mi n Gulf Hill, dr 1945 ft shale.

ORANGE COUNTY—Veteran Oil Co.'s Reed 1, 2 mi se Orange field, dr 2510 ft. The Texas Co.'s Kuhn 1, 4 mi e Spindle Top, sand at 778 ft.

REFUGIO COUNTY—Blanco Oil Co.'s St. John 1, 3 mi nw Refugio, sd 2405 ft. Davidson Horn's Howard 1, 3 mi sw Refugio, dr 2735 ft gbo. Magnolia's Glenwinckle 1, 1 mi n Refugio field, dr 3687 ft water sand.

VICTORIA COUNTY—Humble's Welder 3-A, 1½ mi ne Nursery, dr 517 ft sand.

WALLER COUNTY—Dixie O. & G. Co.'s Brazos River State 1, San Felipe, sd 500 ft. The Texas Co.'s Young 1, 3 mi e Raccoon Bend, dr 350 ft sand and shale.

WASHINGTON COUNTY—Sun Oil Co.'s J. Grote 2, Clay Creek, coring 2159 ft; C. Einman 2, Clay Creek, swabbing 1261 ft; Caraway 1, Clay Creek, completed at 960-1275 ft for 960 bbls; G. F. Grote 4, Clay Creek, lcn; C. F. Grote No. 6, Clay Creek, set cas at 908 ft. Davis et al's Seward 1, ½ mi n Independence, dr 1740 ft shell. Thomas et al's Giddings 1, 4 mi e Brenham, lcn. W. D. Anderson 1, dr 100 ft.

WHARTON COUNTY—Hearte Oil Co.'s Brown 1, dr 2145 ft gbo.

SOUTH LOUISIANA

ARCADIA PARISH—E. F. Simms' Clement 1, Jennings, will try to whipstock out at 2975 ft; Clement 2, Jennings, sd 3840 ft; Grace von Schuler 1, Jennings, sd 4541 ft; Jennings Oil Co. 1, Jennings, sd 3545 ft; Cockrell 1, Jennings, sd 4330 ft; Cockrell 2, Jennings, coring sand, oil show at 3835 ft.

ASCENSION PARISH—Gulf's United Lands Co. 11, Sorrento Dome, dr 3004 ft shale; Belle Helene Sugar Co. 1, Darrow, dr 1115 ft. Triumph Oil Corp.'s J. D. Lacey et al 2, 3 mi se Sorrento, dr 2100 ft. Burnside Oil Co.'s Roberts 1, sd 920 ft; Robert 2, ru. Big Dome Drlg. & Dev. Co. and J. S. Kimbrough's Rearwood 1, Sect. 82, depth 1000 ft. Baton Rouge Pet. Co.'s Liotta 1, sd 1000 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 736, Sulphur, sd 4935 ft; Fee 739, Sulphur, prep to abn at 3006 ft; Fee 740, Sulphur, dr 5810 ft water sand; Fee 741, Sulphur, dr 2715 ft shale; Fee 742, Sulphur, ru. J. W. Watson et al's La. Land Co. 1, Sulphur, heaving shale 5350 ft.

CAMERON PARISH—Pure Oil Co.'s Yount-Lee 7, Sweet Lake, prep to deepen from 4594 ft. Calcasieu Oil Co.'s Doiron 5, E. Hackberry dr 2440 ft shale; Watkins 13, E. Hackberry, abn 4070 ft heaving shale. The Texas Co.'s Calcasieu Lake B-4, E. Hackberry, set surface cas; Calcasieu Lake A-3, S. Calcasieu Lake, driving piling. Rycade Oil Corp.'s and Humble's Gulf Land 1, Hackberry, dr 3147 ft gbo; No. 2, ru. Yount-Lee Oil Co.'s Kaough 1, Hackberry, 3u; R. Vincent 2, Hackberry, ru. Moon Oil Co.'s Sanner 2, Hackberry, dr 2950 ft sand and boulders. Cameron Oil Co.'s Duhon 3, Hackberry, swabbing oil and mud 3111 ft. Federal Pet. Co.'s Kaough 1, Hackberry, dr 3030 ft gbo; Kaough 2, Hackberry, dr 3105 ft sand; Kaough 3, Hackberry, dr 2965 ft rock; Kaough 4, Hackberry, ru; Duhon 1, Hackberry, set 10-inch at 1152 ft; Duhon 2, Hackberry, drk. Rex Pet. Co.'s Noble 1, Hackberry, dr 700 ft sand and gravel. Pure Oil Co.'s Duhon 1, lcn. Cherokee Oil Co.'s Duhon 1, Hackberry, dr 2915 ft water sand. Sun Oil Co.'s Vincent No. 1, dr 2850 ft sandy shale; Vincent 2, Hackberry, dr 375 ft. Chas. T. Madison's Duhon 1, Hackberry, set surface cas. Shell's Watkins 6, Black Bayou, dr 3295 ft shale and lime; Watkins 8, Black Bayou, dr 660 ft gbo.

IBERIA PARISH—The Texas Co.-La. Land & Explo Co.'s Vermilion Bay A-3, Vermilion Bay, sd 4275 ft. Gulf's Fannie Kling et al 3, Loreauville, dr 3690 ft sand. Moresi Co. et al's 1, Loreauville, dr 2635 ft lime and sand. Jefferson Lake Oil Co.'s Lake Peigneur 1, Jefferson Island, dr 855 ft.

IBERVILLE PARISH—Shell's Wilbert 3, White Castle dome, dr 3847 ft shale and sand. Standard of La.'s Wilbert 2, Bayou Blue dome, Sect. 74, ru; Wilbert 3, Bayou Blue dome, dredged canal to lcn; Schwing 1, Bayou Blue dome, will test at 3648 ft; Schwing 2, Bayou Blue dome, Sect. 74-9s-10e, bldg drk. Union Sulphur Co.'s Schwing 3, Bayou des Claise dome, dr 3675 ft rock.

JEFFERSON DAVIS PARISH—Vacuum Oil Co.'s Earl 1, Roanoke, dr 3785 ft gbo; De-Vilbiss 1, Roanoke district, dr 4981 ft in 2nd hole.

LA FOURCHE PARISH—Gulf's Stark 9, Thibodaux, dr 1930 ft. Union Sulphur Co.'s Dibert-Stark-Brown 1, Thibodaux, dr 1175 ft; Ditto 2, dr 1770 ft.

PLAQUEMINES PARISH—Gulf's Morris & Rose 1, Spanish Pass, 5 mi sw Venice, rigged up. The Texas Co.'s Garden Island Bay 1, 15 mi se Venice, drk.

POINTE COUPEE PARISH—Miller et al's Kornbacker 1, sd 1925 ft. Fruen et al's La Cour 1, ru and standing.

ST. JAMES PARISH—U. S. Mineral Dev. Co.'s Reynaul Co. 1, fsh 1720 ft.

ST. LANDRY PARISH—The Texas Co.'s Botany Bay Fee 1, Port Barre dome, fsh for swab at 3766 ft.

ST. MARTIN PARISH—Rycade's State 3, Bayou Bouillon, depth 1094 ft; Bayou Bouillon Fee 6, dr 3010 ft lime rock; Bayou Bouillon Fee 7, drk; Bayou Bouillon Fee 8, dr 3225 ft sandy shale; Atchafalaya Fee 3, Bayou Bouillon, prep to shoot; Atchafalaya Fee 5, Bayou Bouillon, drk. Ohio Oil Co.'s Martin et al 3, Hager dome, r to set cas at 4480 ft; Burke 3, Hager dome, lcn. Young-Lee Oil Co.'s La. Pet. Co. 4, Anse la Butte, dr 3750 ft water sand.

ST. MARY PARISH—J. Dannenbaum et al's Le Blue 1, Charenton, sd 3015 ft.

ST. TAMMANY PARISH—Pearl Oil Corp.'s Fritsche 1, Slidell, td 2020 ft.

TANGIPAHOA PARISH—Tanli Oil Co.'s Weinberger 2, sd 4050 ft. Joan Dev. Co.'s Lake Superior Piling Co. 1, sd 220 ft.

TERREBONNE PARISH—Southern Gas Co.'s Peoples Sugar Co, 1, Houma, sd 2287 ft. The Texas Co.'s Lake Barre 1, Sect. 37-21s-19e, capping piling; Lake Pelto B-1, Sect. 8-23s-18e, moving in; Four Isle Bayou B-1, dredging canal Timbalier Bay A-1, driving piling; Bay Ccon Road B-1, Sect. 17-22s-18e, waiting for piling; Dog Lake Bayou A-1, Sect. 6-22s-16e, driving piling.

EAST TEXAS

BOGGY CREEK DISTRICT (Anderson-Cherokee Counties)—Humble's Neches River 1, dr 3178 ft sandy shale and boulders; Lizzie Smith 3, cleaning out cavings at 3715 ft; T. H. Jones B-1, waiting on orders, had 5 million ft gas at 3533 ft; Gouget 1, dr sand rock at 2047 ft; Purvey 1, set casing at 886 ft; Earl & Ragsdale 4, dr 3500 ft chalk; Elliott & Clark B-1, digging rat hole.

BOWIE COUNTY—Hooks O. & G. Co.'s Rosenberg 1, King sur, temp abn, td 3086 ft.

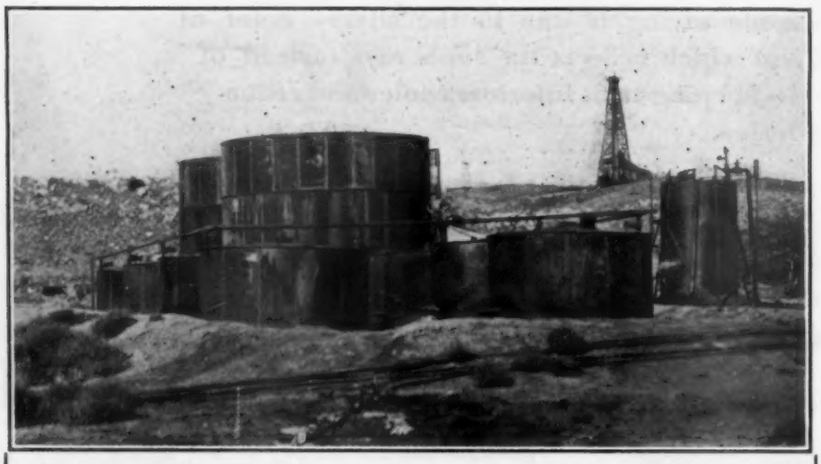
CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 1920 ft.

CASS COUNTY—Davis & Pigg's Ed Lambert 1, Lambert sur, sd wo 1952 ft.

MARION COUNTY—Trimount Pet. Co.'s Mebane-Stiles A-1, Gupton sur, dr pyrite and hard sand 1958 ft.

RED RIVER COUNTY—D. M. Buffington's Hoosier 1, Hughart sur, dr 1550 ft. Shad Harper's Garland 1, Jos. Wagley sur, sd wo 1862 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, sd wo 1440 ft.

SHELBY COUNTY—Chaparral Oil Co.'s Holt 2, Matthew Moore sur, 3004 ft. Gulf Ref. Co.'s Caraway 1, Patterson sur, cord hard blue shale streaks lime and shells with strong show gas 3101-3115 ft.



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THE PHILIP CAREY COMPANY — *Lockland,* CINCINNATI, OHIO

Carey

ASBESTOS PIPE LINE FELT

WEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CONCHO COUNTY—		
J. L. Duffey & Loofburrow, Hill 1..	*	2142
FISHER COUNTY—		
Thompson & Greenwood, Newman 1	*	3300
IRION COUNTY—		
Western Oil Co., H. Horney 1	*	1300

ANDREWS COUNTY—Deep Rock Oil Co.'s Hostetter 1, elev 3224 ft, top salt 1890 ft, dr 2930 ft. Mid-Continent Pet. Corp.'s M. M. Fisher 1, dk.

BORDEN COUNTY—Gibson-Johnson et al's Higginbotham 1, rig. Greene O&R Co,'s Slaughter 1, sd 565 ft. C. E. Hyde et al's Beal 1, dr 185 ft. Teas & Wheeler's Long 1, rig.

BREWSTER COUNTY—Ed. W. Bateman & Co.'s Nevill 1, elev 3950 ft, making gas after shot 20 qts. at 1898-1926 ft, re-set cas, td 1926 ft. Brewster Oil Co.'s Fee 1, dr 805 ft. J. P. Johnson & Bert Weekly's Jackson-Harmon 1, spudding.

COKE COUNTY—Cates & Dennis' J. R. Mims 1, sd 1585 ft; Mims 2, spudded and sd. Mid-Kansas O&G Co.'s Lackey 1, elev 2102 ft, ur 3212 ft.

CONCHO COUNTY—J. L. Duffey et al's Lovelace-Lockhart 1, sd 660 ft. Lloyd Jones et al's Jones 1, sd 660 ft.

CRANE COUNTY—Gulf Prod. Co.'s Waddell 6, elev 2733 ft, top salt 1270 ft, top brown lime 3147 ft, dr with 800 ft oih pay 3307-47 ft.

CROCKETT COUNTY—G. H. Anderson & P. H. Williams' University 1, elev 2610 ft, dry and abn in sulphur water 2618 ft. Barbara Oil Co.'s Cox 1, elev 2051 ft, top lime 1082 ft, sd 1515 ft. W. W. Donnelly & W. A. Moncrief's Massey-Todd 1-A, machine; Todd 1, (Sec. 35), dr 500 ft; Todd 2, show oil 1065 ft, dr 1080 ft. W. W. Donnelly et al's Shannon 1, (Sec. 42), dr 115 ft. Eppenauer Drlg. Co. & West Texas Pet. Corp.'s Noelke 1, spudded and sd. Lewis & Daniels' Pecos River Bed 1, elev 1967 ft, dr 605 ft. Tidal Oil Co.'s W. W. Weatherred 1, elev 2329 ft, top salt 485 ft, dr 1060 ft. J. D. Wheeler et al's State Fee 1, elev 2326 ft, top salt 492 ft, dr 600 ft.

CULBERSON COUNTY — Deep Rock Oil Co. & Grisham-Hunter Corp.'s Kloh 1, dr 310 ft. Hickey et al's Finley 1, elev 3916 ft, sd 1780 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, ur cas 4005 ft.

FISHER COUNTY—Bickerstaff et al's McWhirter 1, elev 1932 ft, sd 2000 ft. Cranfill-Reynolds & Sun Oil Co.'s Brown 1, elev 1846 ft, swab 40 bbls oil at 3193-96 ft; Fleming 1, elev 1803 ft, show oil 2905-10 ft, dr 3055 ft; B. F. Willingham 2, elev 1808 ft, dr 2080 ft. J. B. Dunigan et al's Henry 1, elev 1913 ft, sd 2310 ft. Culberson Bros. & Mesa Oil Co.'s Griffin 1, dr 515 ft. Gilman-McMurray & French's Cleveland 1, elev 1973 ft, dr 1735 ft. Landreth Prod. Corp.'s Cooper 1, elev 1825 ft, top lime 2760 ft, testing show oil 2775-80 ft. Bob Rainey et al's Marberry 2, elev 1929 ft, top lime 2995 ft, sd 3507 ft. Roeser-Pendleton & Amerada's Haught 1, dr 310 ft. The Texas Co. & Phillips Pet. Co.'s Hail 1, elev 2102 ft, dr 660 ft. White Eagle O&R Co.'s Hughes 1, rig.

GAINES COUNTY — Pure Oil Co.'s Williamson 1, elev 3197 ft, top salt 2333 ft, dr 3765 ft.

GARZA COUNTY—Emerald Oil Co.'s J. M. Boren 4, elev 2343 ft, top lime 1975 ft, co with 1600 ft oih after shot 100 qts. at 2507-35 ft, td 2573 ft.

GLASSCOCK COUNTY—Kyle & Daniels' Meek 1, elev 2792 ft, dr 405 ft. Gibson-Johnson et al's Mann 1, elev 2703 ft, top salt 1170 ft, top lime 2640 ft, sd hfw 3233-45 ft. McElreath & Suggett's Underwood 1, lcn. Meriwether Oil Co.'s McDowell 2, elev 2517 ft, top salt 970 ft, top lime 2445 ft, sd 2960 ft. Penn Oil Co. & Empire G&F Co.'s Hughes 1, elev 2733 ft, top lime 2335 ft, ur 2775 ft. White Eagle O&R Co.'s Dunbar 1, elev 2705 ft, top salt 1140 ft, top lime 2685 ft, dr 3345 ft. World Oil Co.'s McDowell 1-C, elev 2530 ft, ur 10-inch cas 795 ft.

TOM GREEN COUNTY—F. P. Green et al's Fee 1, sd 1931 ft. Williams et al's Wilkey 1, ur cas 370 ft.

HUDSPETH COUNTY — The California Co.'s University 1, elev 5833 ft, crooked hole 624 ft. Lockhart Bros. et al's Western State 1, spudded and sd. Western States Oil Co.'s Gardner-Mosely 1, elev 5086 ft, sd 3155 ft; Moore 1, elev 5150 ft, sd 2760 ft.

IRION COUNTY — Fuhrman Pet. Corp.'s Sugg 1, Lse. 2, machine; Sugg 1, Lse. 3, (Sec. 3009), elev 2415 ft, top salt 811 ft, top lime 1622 ft, dr 1925 ft. Kimbrough et al's Nutt 1, elev 2299 ft, sd 1420 ft. Kimbrough & Flinchbaugh's Tankersley 1, elev 2241 ft, dr 210 ft. Kingwood Oil Co.'s Sugg 1, elev 2334 ft, sd change power, td 5875 ft. Pecos Valley Oil Co.'s Joe Stock 1, elev 2110 ft, dr 1005 ft. Signal Oil Co.'s Sugg 2, elev 2498 ft, top salt 760 ft, ur 1925 ft. Sun Oil Co.'s Tankersley 1, elev 2254 ft, dr 1355 ft. Webb et al's Nutt 1, elev 2351 ft, sd 3240 ft.

JONES COUNTY—Culberson Bros. et al's Anderson 1, lcn. E. P. Campbell & Co.'s Herndon 1, sd 2435 ft. Grisham-Hunter Corp.'s A. G. Hester 1, rig. P. K. French et al's Leeson 1, lcn. McClanahan et al's Hall 1, dr 1630 ft. McGinley-Sigler Co.'s Whittemore 1, dr 1335 ft. McNeeley et al's Bland 1, spudded and sd. Mid-Sun Oil Corp.'s Hoehn 1, elev 1899 ft, dr by tools 2410 ft. Milt Richardson-McGinley et al's Martin 1, dr by junk 1300 ft. Roeser-Pendleton et al's Castle 1, dr 2315 ft. Sedgwick O&G Co.'s Brown 1, lcn; Routh 1, dr 1735 ft. Tomberlin et al's Horn 1, spudded and sd. White Eagle O&R Co.'s Teague 1, lcn.

KING COUNTY — Huff Oil Co.'s M. A. Martin 1, rig.

LOVING COUNTY—Lockhart & Co.'s Hazell 1, elev 2705 ft, rig; W. D. Johnson (was Cox) 1, dk; H. L. Lepp 1, top salt 725 ft, dr 2415 ft; Hubbard Heirs 1, elev 2706 ft, top salt 700 ft, swabbed and flowed 100 bbls 31 degree oil after shot 2592-2621 ft; Hubbard 2, rig; J. J. Wheat 1-H, rig.

LYNN COUNTY—Hart Oil Corp. & Geo. McCamey's Edwards 1, elev 3128 ft, sd 915 ft. H. F. Miller et al's May 1, spudded and sd.

MENARD COUNTY—Carl G. Cromwell et al's Wilhelm 1, elev 2245 ft, dr 2765 ft.

MIDLAND COUNTY—O. H. Shoup et al's Parks 1, sd 4980 ft.

MITCHELL COUNTY — Clopton & Hammon's McKenzie 1, dk. Simms Oil Co.'s Ellwood 1, elev 2237 ft, cased off gas, dr 785 ft. Teas & Wheeler's Radford 1, elev 2223 ft, top salt 667 ft, top lime 1365 ft, dr 3805 ft. West &Hyde's Ellwood 1, lcn.

NOLAN COUNTY—L. G. Bradstreet et al's Kuteman 1, rig. C. M. Root Drlg. Co.'s Lon Martin 1, rig; Simpson 1, elev 2033 ft, dr 3035 ft. White Eagle O&R Co.'s Allyn 1, sd 3040 ft.

PECOS COUNTY—Alexander-Lyles et al's Sellman 1, sd 1655 ft. Atlantic Oil Prod. Co.'s J. C. Trees 1, lcn. Benedum-Trees et al's Corder 1-A, elev 2713 ft, top lime 1840 ft, dr 3445 ft. M. H. Black et al's Pecos 1, lcn. Buell-Hagan et al's University 1-B, lcn. A. R. Bell et al's A. A. Gray 1, lcn. K. A. Crowley et al's R. G. Heiner 1-A, sd 360 ft. Doran & McGee's Pecos 1, lcn. Cowboy Evans et al's Pecos 1, lcn. Spot Geyer & Earl Frates' B. F. Smith 1, lcn. J. W. Grant et al's Turney 1, elev 2592 ft, top lime 1015 ft, fsh 4430 ft. Grayburg Oil Co.'s University 1, elev 2725 ft, dr 850 ft. Imperial O&G Co.'s Pecos 1, lcn. Marland Prod. Co.'s Blakeslee 1, elev 2448 ft, sr 1380 ft. McCarthy Oil Co.'s A. A. Gray 1, elev 2524 ft, flowing small heads 34 gravity oil and re-set cas 1150-62 ft; A. A. Gray 2, lcn. Mauch & Krogen's Holmes 1, elev 2325 ft, top salt 535 ft, sd 1010 ft. J. D. O'Mara et al's L. L. Byrne 1, spudding. Pecos Valley Oil Co.'s Fee 2, elev 2499 ft, top salt 1107 ft, sd flowing 80 bbls oil daily 1617-25 ft. Perren et al's Eaton 1, machine. Schumaker et al's Williams 1, elev 2388 ft, sd 700 ft. Shell Pet. Corp. & Kirby Pet. Co.'s University 1, dd, elev 2628 ft, dr 4015 ft. Southern Crude Oil Pur. Co.'s Scarbauer 1, elev 3680 ft, dr 3865 ft. Stein & McGee's Peterson 1, lcn. Talbot & Dittman's Unsicker 1, elev 2471 ft, sd hfw 1508 ft. Transcontinental Oil Co.'s White & Baker 1, bldg road; University 1, elev 2552 ft, top lime 1035 and 3315 ft, dr lime 4205 ft. Trees Oil Co. & Empire G&F Co.'s J. C. Trees 1, dr 305 ft.

PRESIDIO COUNTY — Brite Prod. Co.'s L. C. Brite 2, dr 130 ft. C. E. Miller-Delmar-Phillips Pet. Co.'s Tootle 1, dr 2365 ft.

REAGAN COUNTY—The California Co.'s University 5, elev 2879 ft, top salt 1280 ft, dr

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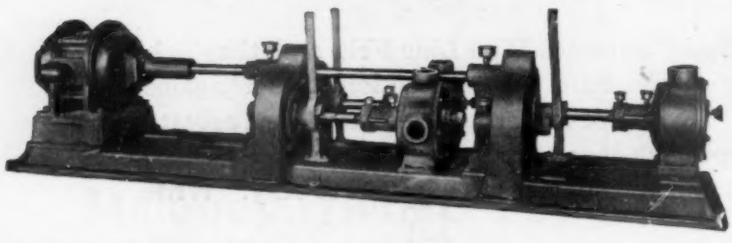

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Note on above illustration that space is provided for fourth pump which may be added at any time.

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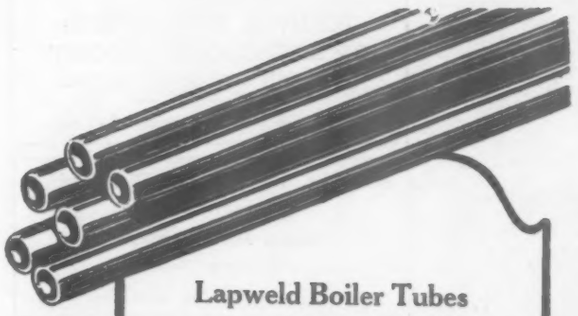

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2930 ft. Kemrow & Co.'s Sawyer 1, lcn. R. V. Oberholtzer et al's Talley 1, dr 185 ft.

REEVES COUNTY—E. W. Brooks et al"s Eddins 1, elev 2719 ft, top salt 1622 ft, top lime 3216 ft, sd 5658 ft. Exploration Co.'s Kinney 1, elev 2847 ft, pull casing 2900 ft. enn Oil Co.'s Bowles 1, elev 2783 ft, top salt 1725 ft, dr 4075 ft. Southern Crude & Dixie Oil Co.'s Kloh 1, dr 475 ft. Lee O. White et al's Kloh 1, elev 3244 ft, spudded and sd.

RUNNELS COUNTY—G. W. Boyce et al's Lange 1, sd 1350 ft. Independent O&G Co.'s Will Rollwitz 1, spudding. Marland Prod. Co.'s Herring 1, dr 1560 ft. Herbert Oil Co. (was Gene Mays et al's) Currie 1, sd 360 ft. Ira Nourse & Elvin Tilton et al's Cramer 1, elev 1775 ft, sd 3000 ft. Union Oil Co.'s Allen 1, cem crevice 3008 ft.

SCHLEICHER COUNTY — Ft. McKavitt Oil Co.'s Tisdale 1, elev 2155 ft, sd 1535 ft. Interstate Explo. Co.'s Whitten 1, ur casing 935 ft.

SCURRY COUNTY—Joe Maxwell & Lou Ladd's Koonsman 1, lcn. R. B. Pender-Dieckman et al's Davis 1, elev 2208 ft, top salt 445 ft, dr 2210 ft.

STERLING COUNTY — Foster-Gracey Oil Co.'s Foster 1, elev 2260 ft, ur cas, td 2120 ft. Miller Bros. et al's Foster 1, dr 830 ft.

SUTTON COUNTY — Phillips Pet. Co.'s Holman 1, elev 2247 ft, top lime 2315 ft, cem cave 5880 ft. L. G. Priest et al's Allison 1, sd 530 ft. Southern Crude & Dixie Oil Co.'s Allison 1, dr 3500 ft.

TAYLOR COUNTY — Grisham - Hunter Corp.'s Campbell 1, ur cas 2335 ft. J. B. Jameson et al's Webb 1, rig. Mid-Continent Pet. Corp.'s Taylor 1, elev 1933 ft, passed up oil pay, dr 2580 ft. Thompson et al's Hammer 1, sd 1615 ft. L. H. Wentz et al's Armour 1, set cas 1771 ft.

TERRELL COUNTY—Milham Corp.'s Bassett 1, elev 2270 ft, sd 4635 ft. Keck-Pecos Oil Trust's Hamilton 1, elev 1733 ft, sd 1749 ft.

VAL VERDE COUNTY—Dyer Bros. et al's Wilson 1, elev 2115 ft, sd 2705 ft. Producers Oil Co. et al's Everett 1, sd 2115 ft. Val Vert Oil Corp.'s Bassett 1-A, elev 2069 ft, fsh 3760 ft.

WARD COUNTY—Atlantic Oil Prod. Co. & Delmar Oil Co.'s Hayzlett 1, elev 2504 ft, top salt 715 ft, pumped 57 bbls 35 degree oil first 20 hrs., pay 2473-85 ft. Barstow O&G Co.'s Monroe-Gillespie 1, spudded and sd. Gulf Prod. Co.'s G. W. O'Brien 4, dr 1005 ft. J-H-L Oil Co.'s Hayzlett 1, elev 2522 ft, top salt 792 ft, swabbed 50 bbls oil at 2455-69 ft; Hayzlett 2, spudding. Kemper Kimberlin et al's Thompson 1, lcn. Tex-Oil Prod. Co. (Lovelace et al's) Redman 1, sd 550 ft.

WINKLER COUNTY — Gulf Prod. Co.'s Scarborough 1, elev 2953 ft, top salt 1210 ft, flowing 75 bbls 36 degree gravity oil and drl pay 2987-3155 ft. Prairie O&G Co.'s Scarborough 1, elev 2914 ft, dr 2445 ft. Shell Pet. Corp. & Llano Oil Co.'s Scarborough 4, elev 2953 ft, top salt 1105 ft, flow 110 bbls oil daily pay 2990-3182 ft; Scarborough 5, elev 2966 ft, top salt 1110 ft, dr 2002 ft. Texas-Canadian Oil Co. & Superior's Kloh 1, fsh 900 ft.

YOAKUM COUNTY—Bert Weekly et al's Knight 1, dr 995 ft.

Pontotoc Sulphur Flow

Tulsa.—Sinclair Oil & Gas Company and J. A. Hull Company's Gardner 1, SE NE Section 6-4n-6e, wildcat north of Ada, in Pontotoc County, encountered the second Wilcox sand at 3647 feet and at 3690 feet started flowing sulphur water.

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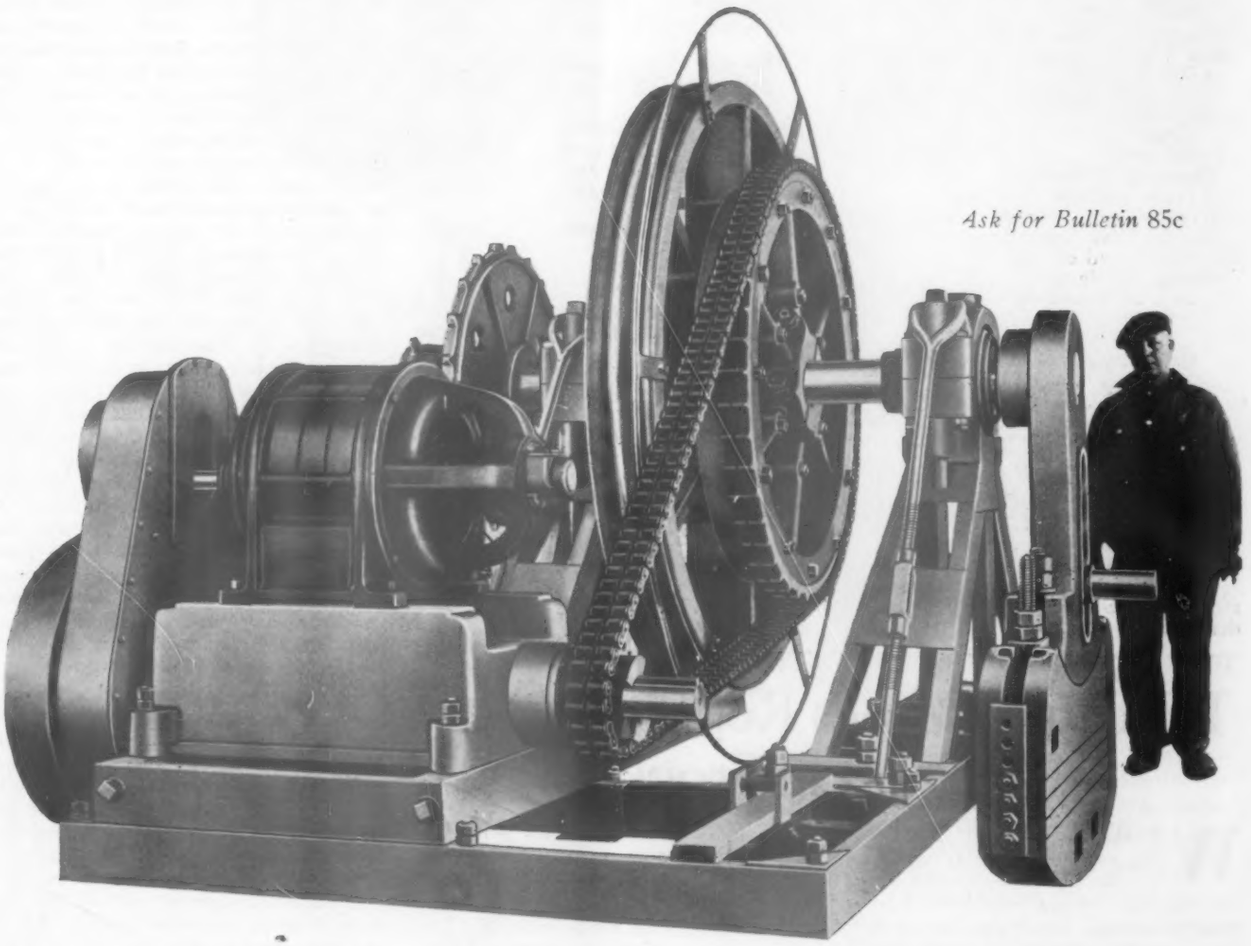

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Say you saw it in The OIL WEEKLY

ANALYSIS OF SUPPLY AND DEMAND OF ALL OILS

(Including wax, coke, and asphalt in thousands of barrels of 42 U. S. gallons)

	January 1929	December 1928	January 1928
NEW SUPPLY:			
Domestic production:			
Crude petroleum:			
Light	74,812,000	71,231,000	64,658,000
Heavy	7,167,000	8,217,000	8,055,000
Total crude	81,979,000	79,448,000	72,713,000
Natural gasoline	3,983,000	3,929,000	3,405,000
Benzol	250,000	253,000	226,000
Total production	86,212,000	83,630,000	76,344,000
Daily average	2,781,000	2,698,000	2,463,000
Imports:			
Crude	8,075,000	6,807,000	6,145,000
Refined	884,000	1,097,000	1,165,000
Total new supply all oils	95,171,000	91,534,000	83,654,000
Daily average	3,070,000	2,953,000	2,699,000
Change in stocks all oils	11,416,000	4,958,000	10,339,000
DEMAND:			
Total demand	83,755,000	86,576,000	73,315,000
Daily average	2,702,000	2,793,000	2,365,000
Exports[1]:			
Crude	1,972,000	1,529,000	1,232,000
Refined	11,714,000	9,483,000	11,734,000
Domestic demand	70,069,000	75,564,000	60,349,000
Daily average	2,260,000	2,438,000	1,947,000
Excess of daily average domestic production over domestic demand	521,000	260,000	516,000
STOCKS (end of month):			
Crude petroleum:			
East of California[2]			
Light	322,749,000	320,015,000	309,372,000
Heavy	50,164,000	48,416,000	49,888,000
California:			
Light	19,196,000	16,995,000	20,493,000
Heavy[3]	99,738,000	99,975,000	94,327,000
Total crude	491,847,000	485,401,000	474,080,000
Natural gasoline at plants	741,000	608,000	740,000
Refined products	133,367,000	128,530,000	125,126,000
GRAND TOTAL STOCKS OF ALL OILS	625,955,000	614,539,000	599,946,000
Day's supply[4]	232,000	220,000	254,000
Bunker oil (included above in domestic demand)	3,915,000	4,235,000	3,783,000

[1] Includes shipments to non-contiguous territories. [2] Exclusive of producers' stocks. [3] Includes fuel oil. [4] Grand total stocks divided by daily average total demand.

Bureau of Mines Reports Large Increase in Stock

WASHINGTON, D. C.—According to the monthly report of Bureau of Mines, stocks of all oils during January increased 11,416,000,000 barrels. Crude production during January amounted to 81,979,000 barrels, a daily average of 2,644,000 barrels. This represents the highest level for production yet attained. The daily average production for all three of the leading producing states—Texas, Oklahoma and California—increased in January, the combined increase being approximately equal to the increase for the country as a whole. California showed much the largest increase of the three, this being due principally to the rapid development of deep sands at Santa Fe Springs. Production of the various West Texas fields increased materially. Oklahoma showed but a small increase, the new flush production at Maud and the Seminole district being counterbalanced by declines in the older pools of the district.

Total stocks of crude east of California increased approximately 4,500,000 barrels, about 2,000,000 of which was recorded as refinery stocks. This was the largest increase recorded in these classes of crude stocks since March, 1928. Stocks of light crude in California increased materially for the first time in many months, a reflection of the flush production at Santa Fe Springs. Stocks of heavy crude and fuel oil showed a small decrease, due mainly to further curtailment of output in the heavy oil fields. Stocks of all oils in the United States mounted to a new high level of 625,955,000 barrels on January 31.

Bureau Report Shows a Better Balance in 1928

Washington, D. C.—According to preliminary figures compiled by the Bureau of Mines, Department of Commerce, from reports received from companies that operate gathering lines, 900,364,000 barrels of crude petroleum was transported from producing properties in the United States during 1928. The final figure of total production, which will include crude consumed for fuel on leases and the net change in producers' stocks, may amount to 902,000,000 barrels. If this figure is attained, it will represent a new record for total production, as it is slightly above the 901,129,000 barrels produced in 1927. This is somewhat surprising in view of the apparent success which attended the many efforts to control output. These efforts were confined in the main to West Texas and the Seminole district. In the former, though most of the wells were shut down or pinched in immediately upon completion, the total production for the year was more than twice what it was in 1927, which more than offset the comparatively small decline in total output of the Greater Seminole district. The greatest efforts at proration in Oklahoma were concentrated on the Little River pool of the Seminole district which, by agreement, was held back until August 15. This and the natural decline of the older pools in Seminole was largely responsible for the steady increase in the output of Oklahoma during the first four months of the year. However, though Seminole continued to decline for the next few months, the output of the state showed an increase in both May and June. The probable explanation of this is that the larger companies, faced with an increased demand for high gravity crude and being averse to withdrawing relatively high cost crude from storage, increased their pipe line runs in the older fields of the state.

Although the production of crude petroleum remained at a comparatively high level throughout 1928, a much better balance between supply and demand was maintained than during 1927. This is illustrated by an analysis of stocks of all oils which increased approximately 25 million barrels in 1928, as compared with about 68 million barrels in 1927. The domestic demand for all oils increased seven per cent. in 1928, which was the chief reason for the smaller increase in stocks. Texas, with an output of 256,888,000 barrels, was for the first time the leading producing state. Oklahoma dropped from first to second place and California from second to third. Stocks of crude east of California increased from 352,038,000 barrels on January 1 to 368,431,000 barrels at the end of the year. This increase, which was all in light oils, was composed of a small increase in foreign refinery stocks and a sizeable increase in tank farm stocks in the Mid-Continent field. Stocks of light crude in California again decreased but stocks of heavy oil increased.

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"INSTALLED SIX MONTHS AGO STILL IN USE"
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12 x 12 Enclosed Engine "Monkey Motion" Valve Mechanism. GM-6000-A

Heavy Duty Drilling Engine

LUCEY MAMUFACTURING CORPORATION

The new Lucey enclosed twin cylinder steam drilling engine, 12 x 12, designed and constructed for heavy duty, carries 12-inch bore and 12-inch stroke cylinders, fitted with balanced piston valves, short and direct steam passages. It has a new type reversing valve motion, permitting easy operation under high steam and high speed.

A new design valve mechanism, commonly known as "Monkey Motion," which does away with all eccentrics and straps, giving a quick valve opening and a decided increase of power and a decrease of steam consumption, operates the engine. This is the locomotive type of valve.

The engine bed is a one-piece alloy casting with bored guides for the crosshead and quarter boxes for the main bearings. The crosshead is a steel casting of light weight and is fitted with a forged steel removable crosshead pin and slippers that are adjustable for wear.

The engine has a five-inch diameter crank shaft of high carbon forged steel, heat treated, made in one piece, having no discs nor pins to work loose and get out of alignment. There are four main bearings in the quarter box construction, giving maximum rigidity to the crank shaft.

Splash lubrication is used for the main and connecting rod bearings and crosshead. The "alemite" system is used for valve mechanism, and a mechanical force feed oiler is used to lubricate the steam cylinders and valve chambers. The sprocket is manganese alloy cast steel and in halves. They are held together by four large heat treated bolts-drive fitted in reamed holes in the sprocket halves.

Prest-O-Weld Acetylene Generator

OXWELD ACETYLENE COMPANY

The Prest-O-Weld Type MP-101 Medium Pressure Acetylene Generator has been developed by the Oxweld Acetylene Company, 30 East 42nd Street, New York City, to meet the demand for a stationary or portable acetylene generator that can be used in connection with medium or low-pressure welding and cutting blowpipes. This generator is adequate for any type of welding or cutting operation.

Underwriters' Laboratories has permitted a double rating for the M.P.-101 generator, making its rated capacity 60 cu. ft per hour.

Carbide capacity of this generator is 30 pounds. The quarter size carbide is used. A special funnel is provided for filling the generator with carbide.

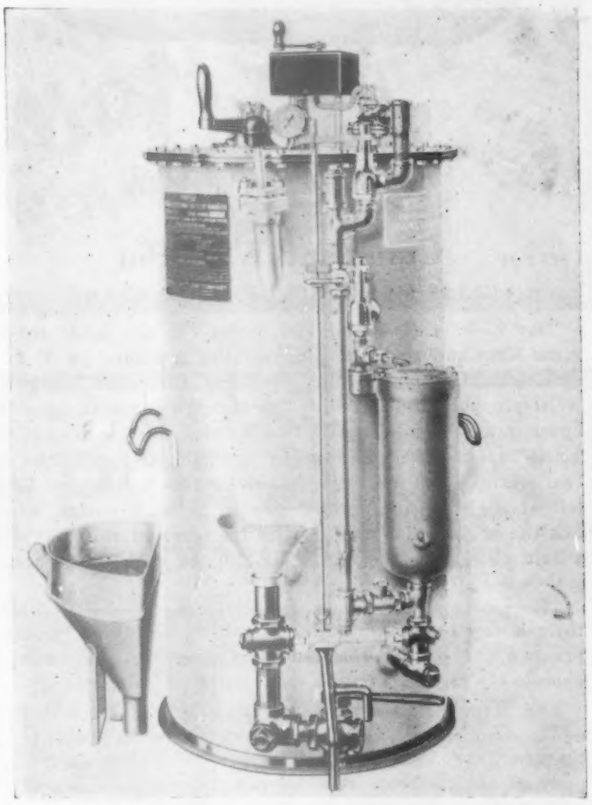
Pressure adjustment is made by means of a thumbscrew on the motor feed control. Fluctuation during normal operation is less than one pound per square inch; under severe load the carbide feed is regulated to limit after-generation to a maximum increase of one pound per square inch. This permits operation of the generator close to the limit of 15 pounds per square inch without loss of gas through the relief valves when the blowpipes are turned off.

Should both the motor brake and relief valves fail to function, the motor locks at about 18 pounds per square inch pressure. Should a broken line or leak of any kind cause the pressure to drop to zero during operation, the motor stops and will not start except by hand.

The motor is enclosed in a dust-tight housing.

Time required for refilling the generator with carbide and water is about 15 minutes.

The feed valve cone can be raised to seal the hopper when the generator is being moved. This valve is also automatically raised, closing the hopper, every time the carbide filling door is opened. The hopper and generator body are designed so that no water will enter the hopper.



Prest-O-Weld Acetylene Generator

New Oil Field Trailer

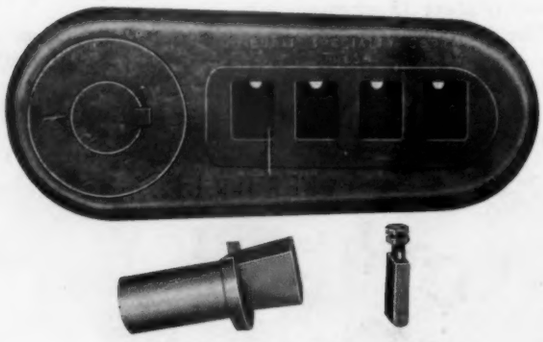
SPRINGFIELD WAGON & TRAILER COMPANY

The Springfield Wagon & Trailer Company, Springfield, Missouri, has on the market a new trailer designed for oil field purposes, in three sizes, One and one-half ton, two ton, and three-ton. The construction details in the three sizes are practically the same. Wood is used generally because of the resiliency. The framing used is braced in such a manner as to tie the pedestal together to prevent or neutralize the weave. Nuts on all braces are accessible, making it possible to take up slack when it first appears. Radius rods obtain direct pull. All wood members are shouldered which gives them greater solidity.

The rear end of springs are boxed with roller bushings,

which allows free movement with minimum wear, and clamping collars on the coupling pole permit adjustment to exact length between bolsters. A coil spring in the coupler cushions the forward and backward thrust.

While this trailer has been used by one of the large producers for more than a year, the Springfield Wagon & Trailer Company has not until recently, and until after thorough trial, placed it on the market so that it is now available at their different branches. This company has been manufacturing vehicles for transportation purposes for more than 50 years.



Eurit E-Z Crank and Wrist Pin

Crank and Wrist Pin

ELLIS MANUFACTURING COMPANY

The Eurit E-Z Crank and Wrist-Pin are made to the same sizes and specifications as those approved by A. P. I. standardization committee, the only difference being the wrist pin hole and bearing. Instead of the round hole and bearing, a square hole with two beveled sides is used in the Eurit crank. The pin bearing is made to fit exactly the two straight and one beveled side of this hole, room being left at the opposite beveled side to insert a wedge, which fills the space. The small end of the wedge terminates with a bolt which goes through a hole in the back of the crank, where it is held in place by a lock nut.

The principal advantage gained is the ease with which the pin may be moved from one hole to the other. In actual practice, it has never taken more than three minutes to completely change this pin from one hole to another.

The crank is available in all standard sizes for drilling and pumping wells. The E-Z Crank and wrist pin is being manufactured and sold by The Ellis Manufacturing Company of 2221 Metropolitan Avenue, Kansas City, Kansas.

UNITED IRON WORKS MOVES

Headquarters for the United Iron Works, Inc., will be moved to Tulsa, April 1. The company has leased space on the fourteenth floor of the Hunt Building.

Among the officials who will make Tulsa headquarters are D. C. Morrow, president; J. H. Campbell, vice president and treasurer; T. R. Stokes, secretary, and F. M. McCall, purchasing agent. L. T. DeBow, vice president, will continue to reside in Joplin, Missouri.

The concern does an extensive business within the petroleum industry. Its plants for steel and wood products are located at Iola and Independence, Kansas, Springfield, Missouri, and Okmulgee, Oklahoma.

F. J. Bradford, who has had charge of sales in Tulsa, will continue in that capacity. His assistant is V. H. Van Horn.

Petro Paints

E. I. DU PONT DE NEMOURS & COMPANY

Petro Paints, the new product of E. I. duPont de Nemours & Company, Inc., of Parlin, New Jersey, has been placed on the market following extensive research and experimental work by duPont scientists. The new product has for the prime pigments: lithophone, zinc oxide and titanium oxide pigment. Inert pigment was added to give greater durability. The proportions to bring out the most desirable features of each element used has been determined by laboratory tests.

Petro Paints are made to resist sulphur fumes and aqueous vapors. They are adapted for systems designed for all types and surfaces, on lease property, tanks, refineries, pumping stations and for several uses in transportation and marketing equipment. The paint can be applied on wood, metal, plaster or concrete.

This special-purpose product is designed to give a minimum of darkening when exposed to elements unfavorable to protective and decorative materials. It has been found to hold its color and to minimize evaporation losses by retaining its cleanliness and brilliance for long periods.

The new paint is applied under adverse weather conditions and is mixed in such a way as to prevent crawling on cold surfaces.

Distribution centers are maintained by the company at Everett, Massachusetts, Philadelphia, Chicago and Tulsa. Further details on the new product will be mailed interested persons upon request to the office at Parlin, New Jersey.

ROTARY PUMP CATALOG

George D. Roper Corporation of Rockford, Illinois, has recently distributed among its customers and other producers an 80-page, loose-leaf catalog, No. 54, describing its Trahern rotary pumps, including the power and hand type. The catalog is neatly illustrated with photographs of products and charts illustrating capacity and power. A copy of this catalog will be mailed iinterested persons on request to the company headquarters.

SULLIVAN MACHINERY CATALOG

Sullivan Machinery Company, 122 South Michigan Avenue, Chicago, announces a new catalog No. 85-B, in which complete equipment and supplies for use with Sullivan Diamond Core Drills are listed and illustrated. This is a 56-page book, size 8½x11. The reader will find in it complete data on black diamonds, drill rods, safety clamps, water swivels, core barrels of numerous types, and fish tail bits for soft ground drilling.

Copies of this bulletin may be secured by addressing the company at its head office, as above, or any one of its numerous branches.

REPRESENTATIVE APPOINTED

Victor Welding Equipment Company has just announced the appointment of the Stoody Company, Whittier, California, as factory representatives of Victor Welding Equipment Company equipment in Southern California. The Stoody Company manufactures welding rods, alloy steels, and a number of other steel products for the producer.

A. H. Carson, factory representative of the Ajax Iron Works of Corry, Pennsylvania, who makes his headquarters in the Mid-Continent in Tulsa and Oklahoma City, has returned from an extensive tour of the North and West Texas fields.

Powerful!

Increasing loads are steadily increasing the strains on rotary lines; and just as steadily increasing the need for more powerful cables.

Specially drawn imported steel wire gives to Yellow Strand Rotary Lines the strength and durability so necessary for economical operation. This special wire is not found in any other cable.

For economy's sake, specify Yellow Strand Rotary Lines.

Write for Catalog 41.

BRODERICK & BASCOM ROPE CO., St. Louis, Mo.
Factories: St. Louis and Seattle

Yellow Strand Rotary Drilling Lines

MR 454

B. B. Bros.
ALL STEEL HAND HOIST
TRADE MARK
SEATTLE, U.S.A.

"Your Little Hoist Outclassed anything we Ever Used"

said J. M. Salter, of the Puget Well Drilling Co.

Weight 110 lbs.

Capacity FIVE TON STRAIGHT LINE

Size 16x17x13" High

Two Speeds 4 to 1 24 to 1

POSITIVE INTERNAL BRAKE

Construction Eight Pieces Electrical Steel Without Keys or Setscrews

Your crew will appreciate a B. B. Bros. Hand Hoist to help them in the "pinches." Emergency work, moving and placing heavy machinery, laying pipe lines, etc. You will find its use in the field practically unlimited.

5 TONS Capacity

PRICE $80

Steel Tail Hold Yoke $4 Extra. Truck Attachment Plate, $10 Extra

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POINTERS on Steel Derricks

Stability

Washington Structural Steel Derricks are *strong* and *rugged*. They are scientifically designed to withstand the hardest strains. With wood, it is a difficult matter to know just what load it will stand, due to the variations in different pieces of wood. With steel, however, the various stresses and strains it will stand are definitely known and it is a very simple matter to provide the required strength. The Washington Derrick is one upon which you can depend—whose safe loads and stresses can be accurately figured. There is no uncertainty about these important factors.

Why Experiment? Washington Derricks will drill your wells and pull your casing.

O'BRIEN STEEL CONSTRUCTION COMPANY, INC.
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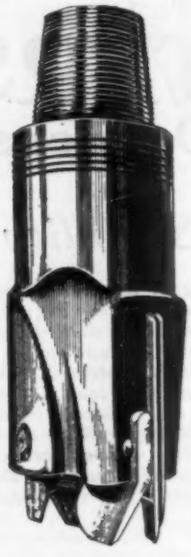
K-P
THE LINE OF LEAST RESISTANCE

STRAIGHT-HOLE ROTARY DRILLING BITS always drill 'em straight and round and for less

You well know the hazards of attempting to drill wells through all formations with any bit that washes away side walls or is not supported sufficiently by side reamers to hold it straight when faults, anticlines or sinclines are encountered.

K-P STRAIGHT HOLE Bit has 57 inches of side cutting surface and at average speed of rotary contacts the side wall 240 times per minute. Because of this constant contact K-P STRAIGHT HOLE Bits in action are just like a tube. *They can't slide regardless of the fault and they never cause caving.*



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Railway Exchange Building
ST. LOUIS, MO.
Sold by every
"Continental" — "National" —"Oil Well" supply company branch store.

Squeaks from the Bull Wheel

"Do you know a fellow down your way with one leg named Oliver?"

"I'm not sure," returned the other doubtfully, "what's the name of the other leg?"

"I suppose when you grow up you want to do something for humanity?"

"Yes, ma'am. I want to be a horrible example."

"Johnny, if your father earned $40 a week and gave your mother half, what would she have?"

"Heart failure."

"John, it's positively shameful the way Junior talks. I just heard him say: 'I ain't never went nowhere.'"

"Shameful? Why, he has traveled twice as much as most boys his age!"

The bleachers would go wild if peroxide gave out.—Oregon Orange Owl.

An old maid went to have her picture taken and the photographer noticed her tying a piece of clothes line around the bottom of her skirt.

"What's the idea of that?" he asked. "I can't take your picture that way."

"You can't fool me, young man," said the old girl. "I know you see me upside down in that camera!"

"Do you know what Ford is figuring on now?"

"No, what?"

"Paper."

"Irene!"

"Yes, mother."

"The clock has struck '12' three times, now let it practice on 'one' for a while."

"Don't you admire the sangfroid with which Harry eats his salad?"

"Oh, I don't know, I prefer mayonnaise myself."

Aren't you the same man I gave some biscuits to last week?

No, mum, and the doctor says I never will be again.

"A gentleman to see you."

"Salesman?"

"Yes."

"Has he a brief case with him?"

"No."

"Is he wearing knickers?"

"No."

"Is he sporting a dinky little mustache?"

"No."

"Send him in."

I raised my hand in school one day.
The teacher, she said "No!"
The joke was on the teacher,
For I didn't have to go.

"Do you act toward your wife as you did before you married her?"

"Exactly. I remember just how I used to act when I first fell in love with her. I used to lean over the fence in front of her house and gaze at her shadow on the curtain, afraid to go in. And I act just the same way now."

Now, I want some humane mothballs; something that won't really harm the moths but will just make them lose their appetites."

"Well, dearie, I was elected."

"Honestly?"

"What difference does that make?"

"Can you drive with one hand?' 'asked the girl in a gentle voice.

"You bet I can," he answered eagerly.

"Then have an apple," she said sweetly.

"The prisoner will please tell the jury how the accident happened."

"Well, your Honor, my wife fell asleep in the back seat."

If she looks young she's old.
If she looks old she's young.
If she looks back follow her.

"Could you suggest something suitable for a girl friend's birthday present?"

"How about these book ends?"

"Just the thing! She always reads the ends before she reads the beginnings."

"Please!"

"No."

"Oh, please do."

"Positively no."

"Please, just this time."

"I said no."

"Aw, Ma, all the boys go barefooted now."

A colored woman went into a store to buy a collar for her husband.

"What size?" asked the clerk.

"I done forget de size," repied the woman, "but Ah kin jes' manage to reach around his throat wif bof hands."

Mistress: Clematis, I think I smell something burning downstairs. Did you remember to turn off the electric iron when you left the ironing-board, as I told you?

Yes'm, I did. I mos' surely did. I pulled dat chain once, lak you tol' me, and den I pull it again, to make sure.—Life.

She (coyly): "What do men talk about?"

He: "The same things women do."

She: "Heavens!"

CLARA BOW and the MARTIN WAGON

This is not at all an advertisement for Clara Bow, merely a further proof that "Martin Wagons Haul Anything" even to big camp houses with theatrical posters on the walls.

There is a sturdiness and a convenience in the MARTIN WAGON that is not duplicated elsewhere. The design is better, to begin with. The front axles turn on centers, allowing the wagon to take the smallest circle without skidding or locking.

We draw our timber supply from our own sawmills, permitting us a selection from the very best. The wood parts are so seasoned, and so well oiled and painted, that they will retain a proper dryness in any climate.

We ship anywhere from North America to the Argentine.

THE MARTIN WAGON COMPANY

Lufkin, Texas

"Martin Wagons Haul Anything"

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A characteristic of the Eagle and also of the products manufactured by The Garlock Packing Company, Palmyra, N. Y.

SOARING majestically above the clouds this king of birds often flies to a height of 23,000 feet. Besides having super strength, the eagle has great Stamina and has been known to exist without food for as many as forty days at a time. This inherent tenacity for life is the work of nature's selective breeding of the survival of the fittest.

The Stamina of Garlock Packings is based on the same general principles as that of the Eagle. It is the result of the knowledge obtained from correctly packing mechanical units combined with the proper selection of basic materials to evolve a Mechanical Packing that is known as "The Standard Packing of the World."

Besides manufacturing packings for general power plant use, The Garlock Packing Company produces various forms of Molded Asbestos, Rubber and Shredded Metal Mechanical Packings, specially produced to meet the packing requirements of any type of power unit or machine. At your request our Packing Experts and Laboratories will co-operate with your Engineering Departments to design a packing that will give you and the user of your machines complete satisfaction.

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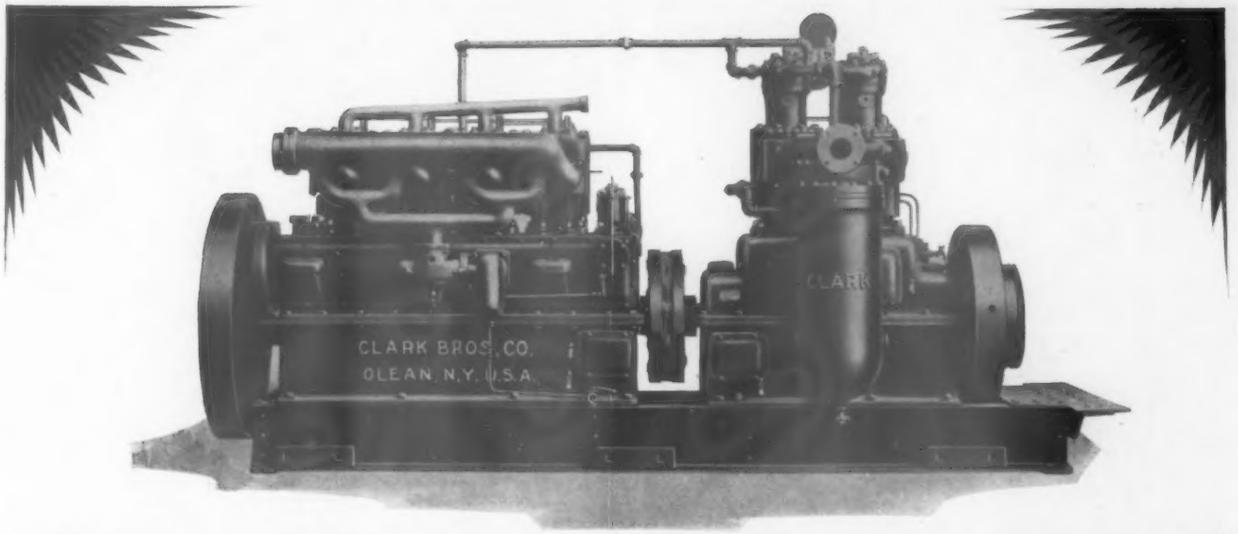

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The men in the picture are: T. B. TEAFATILLER, C. T. ASBURY, JESS CROSS, W. H. BATES, and J. A. HOWARD

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